Periodical

September, 1943

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FEATURES IN THIS ISSUE

GET THAT PILOT! . . . . . *By Critchell Rimington*
RUBBER NAVIGATION FOR RUBBER LIFE BOATS . . . . . *By Harlan T. Stetson*
THE LUCKY "LANIKAI" . . . . . *By C. A. Wallruff, Lt., USN*

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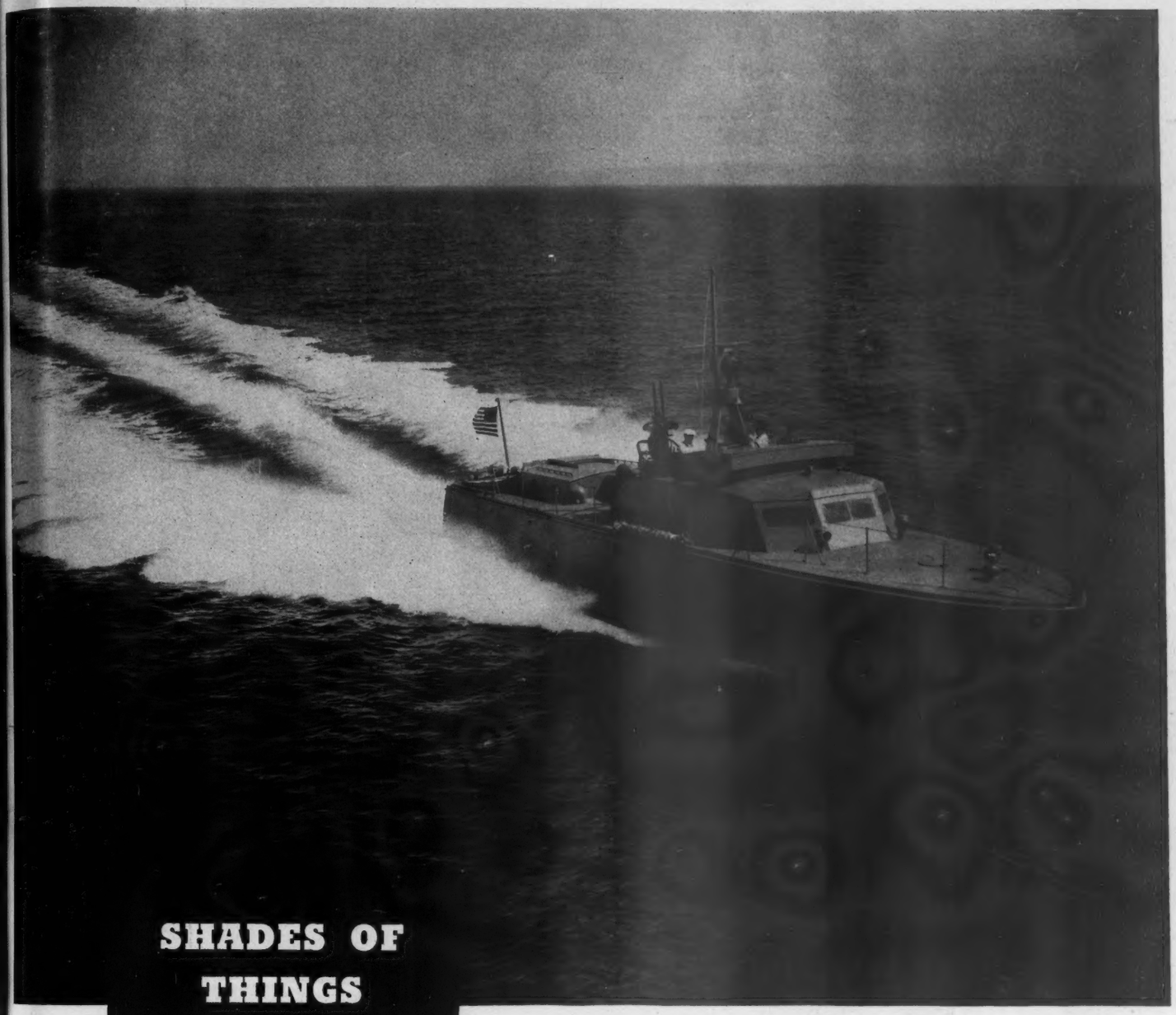

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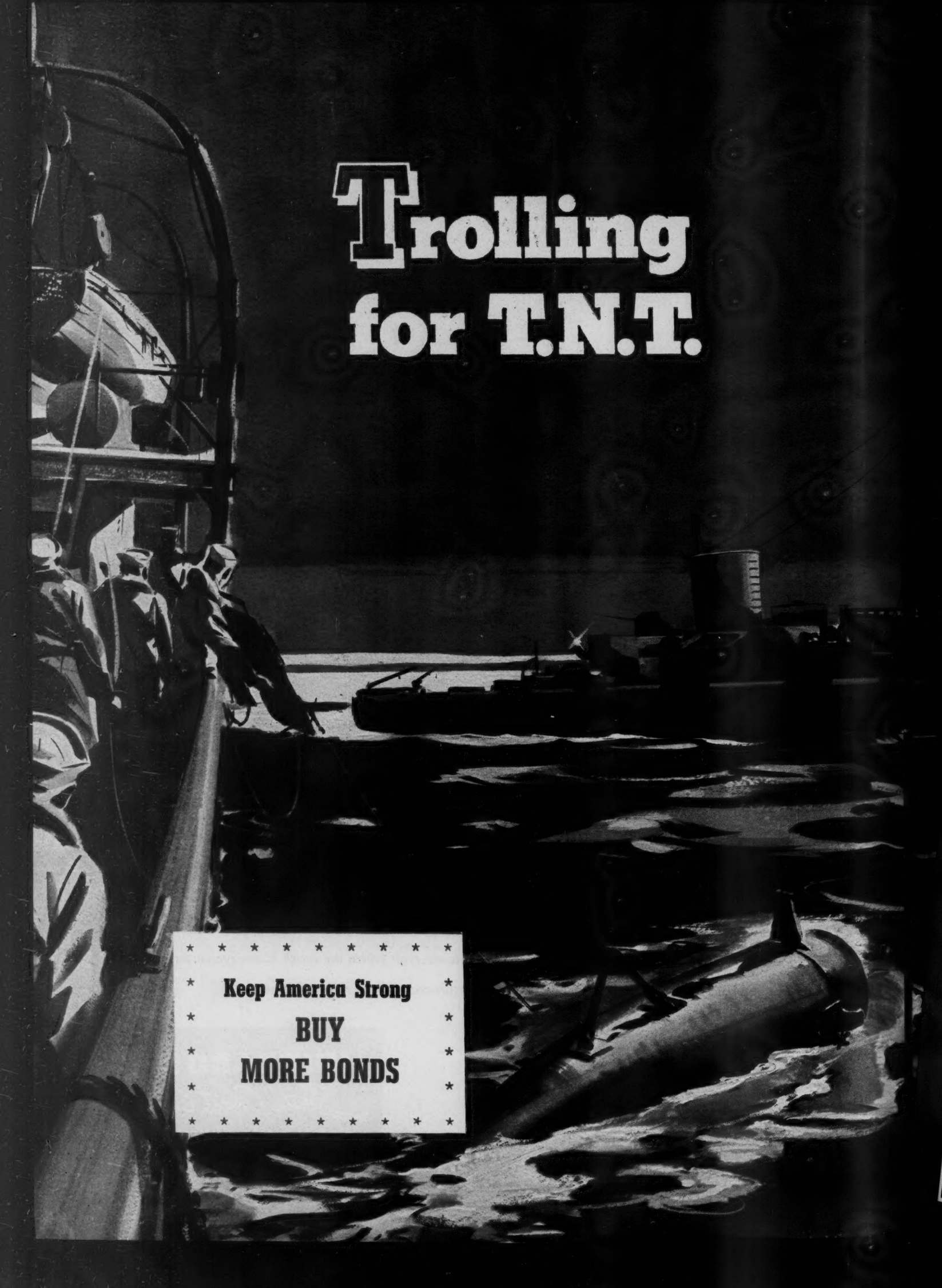
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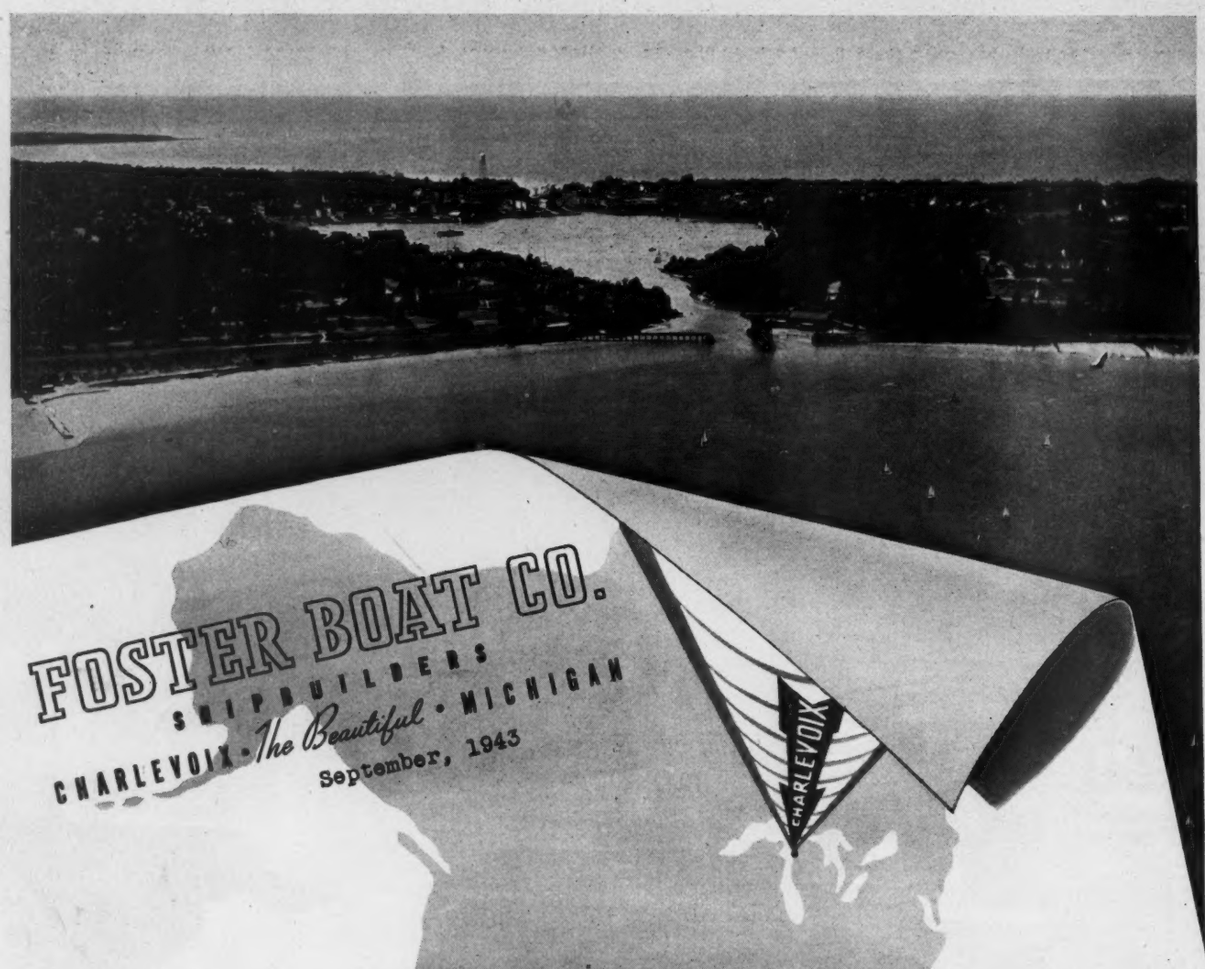

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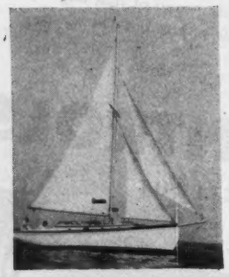

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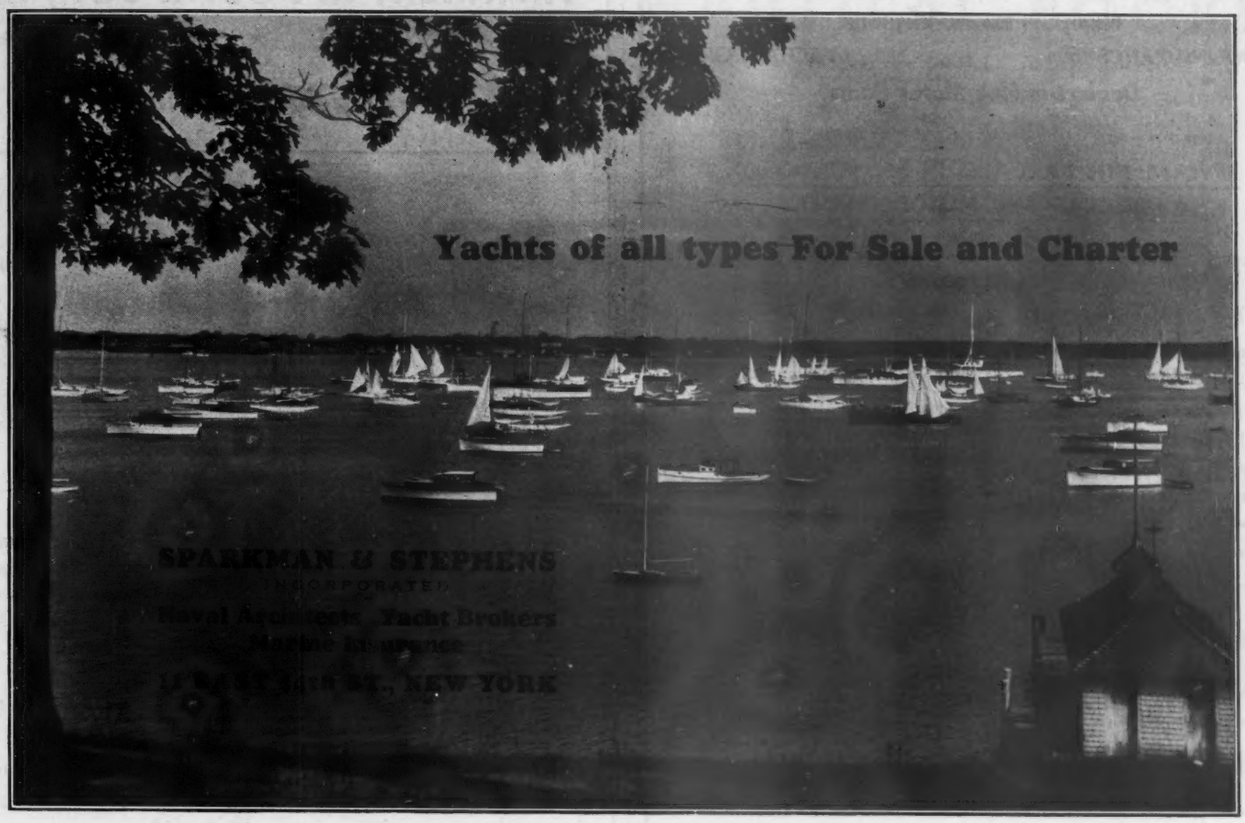

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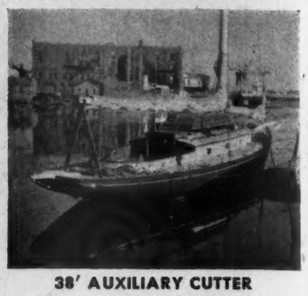

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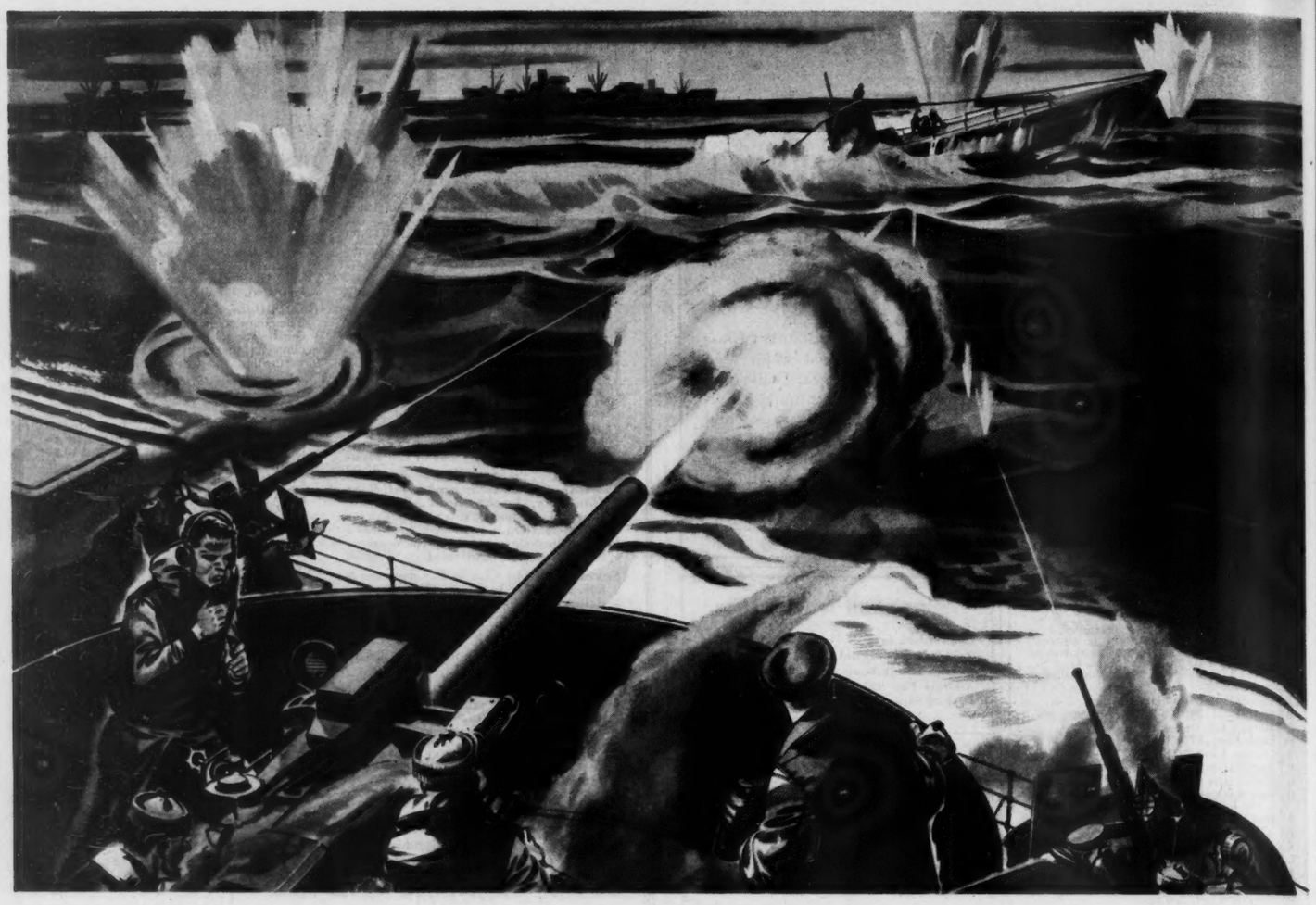
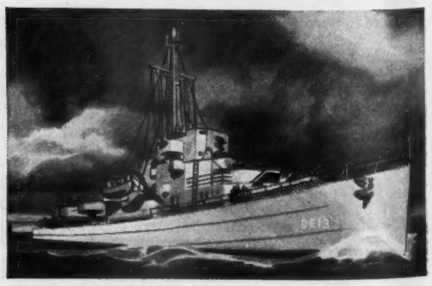


When Hell Breaks Loose on Convoy Lane!

Sturdy "In-fighters"—dazzling fast, the PT's and MTB's are the scourge of the Axis. Their deeds are music to our ears, for each is driven by Federal-Mogul Equi-Poise Propellers.



Deadly new "DE" vessels — slick as an otter are these hard-hitting DE's, designed by the U. S. Navy. Powerful, fast, with propellers made by Federal-Mogul, they are punching convoys through.

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VOL. LXXIV SEPTEMBER, 1943 NO. 3

LOOKING INTO THE FUTURE

PROPHESYING is always fraught with danger — and is usually unprofitable as well. Particularly is this so in a world at war and one that is changing as rapidly as that on which we live. Yet if we did not try to look ahead and see what was around the next buoy on our course, we'd be all at sea when we reached it. The good navigator always has his next course worked out before reaching the turn.

It is for this reason that the recent effort of one of the leading manufacturers of standardized boats to get a glimpse of the future through the "Cruiser of Tomorrow Contest," which has been running through the past few months, is worth while. It is unlikely that such a contest will really produce the yacht of tomorrow but it will produce ideas, will show what boatmen are thinking, and will give a basis from which to start to plan.

Under the stress of war, many changes in boatbuilding methods and construction through the intelligent use of new materials that have been produced — such as plywood, plastics, and synthetic fabrics — have taken place. These changes are bound to affect boatbuilding in the future. They make possible new conceptions of hull design never before deemed practical. If these new concepts carry with them the elements of seaworthiness, safety, economy of first cost and operation which the experience of the past has shown to be essential, then ideas from the layman, the ultimate user of such craft, of what he wants and is going to demand are most worth while. It is this phase of the "Contest" that is, we believe, likely to prove most significant.

WHERE THEY ARE SERVING

WHEREVER sailors foregather, the chief question that is always asked is: "Where is So-and-So and what service is he in?" Whether one is a naval man, a merchant sailor or a yachtsman, interest in the whereabouts of his friends is always uppermost. It would be gratifying if we could publish a roster showing where all those who used to sail and cruise with us now are. As this is impossible, we can, perhaps, answer some of the questions we are asked daily about those on our staff who helped to make the old ship go.

To his host of friends, we can say that cantankerous Spun Yarn (Commander Loomis to you) is busy sweeping up enemy mines. We hope he doesn't miss any. Then there is Rufus ("Bud") Smith, now a Lieutenant in the Coast Guard. He is in charge of an important patrol base on the Atlantic Coast. Young "Bob" Bavier, Jr., — our crack racing hand — now a Lieutenant, is Exec. in one of the new Destroyer Escorts after a year or more in a tumbling Corvette. And "Dick" Manning, a Naval Reserve Ensign, has recently been given command of a mine sweeper, after months of service off the Atlantic Coast. "Wait" Jackson (Jack to everyone) is a 1st Loot in the Amphibian Command. He is, at the moment, busy repairing numerous landing craft faster than their crews can break 'em up.

Fred Gardiner — (Lieutenant Commander) — is Navigator (with other onerous duties) in a Navy "oiler" somewhere in the Pacific, and Bill Taylor still keeps his weather eye peeled in a PC boat, also in the Pacific area.

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Being a Department Designed for Preserving Unusual Tales Spun by Yarners at the End of the Day's Run When Everything Has Been Snugged Down

AROUND THE CABIN LAMP

Shipworms

▶ The boy, who should have known better but didn't, had brought a basketful of stove wood aboard and left it alongside the cabin stove. Old Captain Ferguson took one look at it and swore a blue streak. "Wormy wood!" he yelled. "By Godfrey, I ought to heave you over the side for bringing it aboard. Of all the cussed things invented or created to take the heart out of mankind, worms, shipworms, are the worst!" He went on and on till the cook interrupted.

The cook was from "Way Down East," where almost anything can happen — and has, in all probability — and his opening words were so unusual that they set the Old Man right back on his quarters.

"Worms are all that you say, Capt'n," says the cook, "but, just the same, I wouldn't say that they don't have their uses on occasion."

"Uses be blowed!" yelps the Old Man. "Tell me one, just one instance where a shipworm ever did a good deed or proved to be a benefit and, so help me, I'll buy you the tallest drink and the longest cigar made!"

▶ "I'll do just that," says the cook, "and chance you calling me a liar, because I know darned well you never heard anything like it. It was when I was a boy, down in the Wolf Islands, and in those times nearly everything in the shape of a boat down that way was a sloop, favoring the Friendship type, or a schooner, ranging anywhere from twenty feet on up. They sailed, you see, not having any power in those days and, naturally, they paid all attention to their rigging and all things pertainin' to running gear.

"Shipworms were bad enough around home although I dunno's we had these European chiseling kind in those days, but plenty of the vessels, even small ones, ran to the West Indies in winter and there they picked up shipworms the size of a splitting eel; so, you see, a man had to keep a good eye on his bottom. They didn't have any copper paint, not of the sort we have now, but they mixed up verdigris; came from foundries, I guess, and looked like a mess of green sand and gravel, mostly. They stirred it up in dogfish liver oil, and smeared it on thick and it seemed to work pretty well.

▶ "Now then, in the bunch of smacks that ran to Boston with live lobsters, old Cap'n Nate Freeman and Cap'n Lonso Small were the keenest rivals on the coast. Dirty, old slaving critters they were; good seamen, but crummy as to principles, all the way through. Jealous as the devil of each other, and always laying for one another, and trying to put across something dirty. So it didn't excite any particular comment when old Lonso drove the bolts out of Freeman's rudder gudgeons while he was on the ways, and put in some plugs of wood that snapped off when he was in the middle of the bay and left him nigh helpless till he got picked up. That was the style of fighting favored by these old devils; why they didn't drown each other is a mystery.

"But, somehow, this trick made old Freeman madder than usual and he swore that he'd even things if it took him the rest of his natural life. Lonso had to haul out, too, and he had to refit now and then, but he kept a bright lookout for any dirty work and nobody caught a glimpse of Freeman pulling anything fast. So Lonso refitted, in due time, and made a trip to the sutherd; Newport News, or nearby.

▶ "I neglected to explain, maybe, that these lobster smacks were mostly sloops, with wells in 'em instead of holds, which will help to explain what happened to Lonso. I got this right from his mate. They rounded Cape Cod in beautiful, smooth, June weather and, because it was so clear and fine, old Lonso let her go offshore on a broader slant than usual, figuring on a mite of advantage from tide, and dodging a spot or two that he didn't like, here and there. But, somewhere on the edge of the Shoals, the bottom dropped clean out of the glass, just like that, and out of a black, midnight sky, there dropped the wildest squall that either man had ever seen! It blew great guns, thundered, lightened and hailed, hailstones the size of pigeon's eggs, so the mate said. Well, they had warning enough, so they got their heads'sl in and lashed, and they had hove a goosewing into the mains'l, so they figured that they were all right. But, in the midst of all the thrashing and pounding of sea and wind, something forward came adrift with a squeal that sounded above the wind and, when the mate clawed his way for'ard, he found both parts of the lee shrouds carried away at the hounds and lying on deck. This was mighty serious but old Lonso, he just gritted his teeth and reckoned they'd have to hold on on the same tack if it took 'em clean to the Spanish Coast. So they held on but, in an hour's time, the smack fetched a lurch — and down came the weather shrouds in the same manner.

"Old Lonso brought her to the wind as close as he could and he and the mate veered the halliards out to port and starboard, to take up what strain they could, but it looked bad. It was getting light by this time and they picked up the fallen rigging to get it out from underfoot. They saw then that every bight had been cut two-thirds through! Lonso cursed old Freeman but it didn't do him any good. It looked as if it was all day for him, his mate and the smack.

▶ "But the mast didn't let go, somehow. It sprung some, but it behaved first rate and, as the wind dropped some, old Lonso tacked, figuring that it wouldn't matter much if the mast did go, they havin' been headed right out to sea as it was. But it didn't let go and he held on. By and by the wind dropped some more and he shook out a reef. She still stood up and, to make a long story short, he made it back in. Home being nearest, he fetched the harbor and alongside a dock, where he bragged about the 'toughest mast in the maritime provinces' while keeping an eye peeled for old Freeman.

"They measured and cut the new shrouds, and sent 'em aloft, with a rigger in a bosun's chair. Half-way up, he sings out: 'Hell's bells, this stick is dozy!'

"'Dozy be damned,' says Lonso, 'she carried sail without a stay, and a dozy stick won't do that!'

"'She's dozy, just the same,' says the rigger. 'Look, I can dent her right in with my bootheel!' He kicked the mast and, sure enough, even old Lonso could see it.

"Of course, the mast had to come out and they had the devil's own time clearing it from the step. When they put some real strain on the strop, be blowed if the stick didn't cut right in two, half-way up or a little better. And, when she let go, all hands could see that the mast was wormed till the wood was just about gone!"

▶ "Now wait," says the old man, "how the hell could a mast be wormed?"

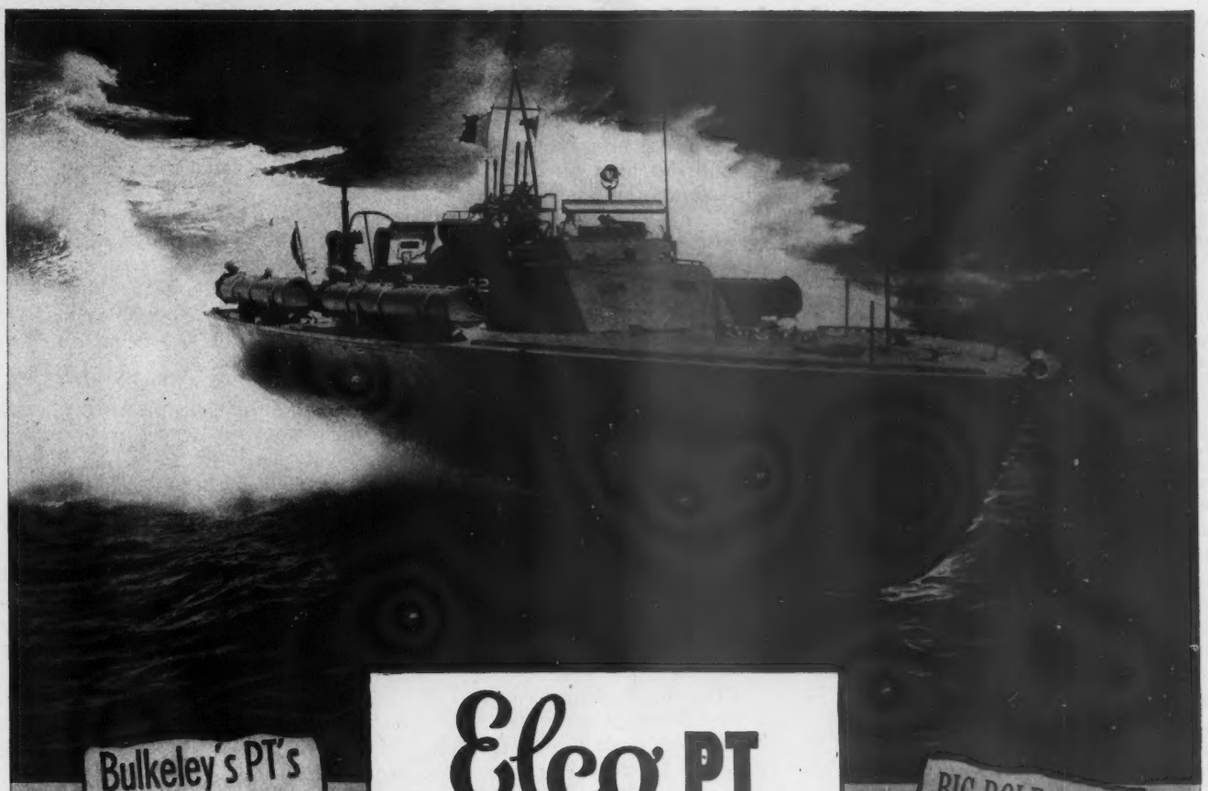
"I'll explain," says the cook. "When they got everything clear, they found that a spot on the shoe hadn't been painted with verdigris. It was where it laid on the keel blocks, and was right under the mast step. A worm had bored there and had gone right up the mast. It was a worm at least six inches through and close to forty-two feet long, by actual measurement! But it saved that smack, just the same, for you know as well as I do that no mast would have stood that strain alone!"

"Through the shoe — and through the keel, the keelson, and then the mast!" gasped the Old Man. "You're just a devilish, cockeyed liar!"

"That's what I figured you'd say," answered the cook. "Suggested it, even, before I started. But I claim that drink and smoke, just the same!"

"Well cuss me," says the old Man, "a lie like that deserves something — but I hope they choke you!"

JOSEPH CHASE ALLEN



Elco PT

"The Boat Behind the Headlines"

Elco PTs and their dauntless officers and crews have made inspiring headline news ever since the dark hours of Bataan. The actual newspaper headlines reproduced here are typical of hundreds which have appeared from coast to coast announcing the exploits of Elco PTs in the Philippines, the English Channel, the Solomons, at New Guinea, and in the Mediterranean. The marked variety in these headlines emphasizes the effective *versatility* of Elco PTs in modern warfare.

The men and women workers of the Elco Naval Division of the Electric Boat Company are the first to credit the accomplishments of these bantam battle boats to the daring and resourceful officers and enlisted men who take them into combat. And rightly. Yet a large share of credit belongs to these Elco workers who put so much care and craftsmanship into the boats they build. To their skill and ceaseless labor the Elco PTs owe much of their dazzling speed and deadly striking power.

The new, faster, harder-hitting Elco PTs being rushed to completion daily afford heroic opportunities to hundreds more young men to qualify for the efficient combat teams that man them. Those accepted for PT duty have good reason to be proud. Never has so new a service won such great respect.

Elco Naval Division
ELECTRIC BOAT COMPANY
Bayonne, New Jersey

Bulkeley's PT's Lead Assaults On Pacific Isles

UNITED NATIONS HEADQUARTERS IN AUSTRALIA.

Torpedo Cut Jap Sub in Half

New Yorker Aboard PT Boat That Sank Craft During Battle of Bismarck Sea.

An Advanced Base Somewhere in New Guinea, July 1 (A. P.)—A torpedo crashed into the side of a Japanese submarine off the coast of New Guinea one moonlight

PTs Attack 8 Jap Warships In Solomons

WASHINGTON, Jan. 4 (UP)—Fast, torpedo-firing motor boats of the U. S. Navy damaged one enemy warship and possibly sank others in an attack last Saturday on eight

Torpedo Boats Fear Nothing, Virginian Says

Alan Montgomery Tells Experiences

BIG ROLE SEEN FOR PT BOATS IN INVASION

PT Boats, 3 Months in Solomons, Smash 250,000 Enemy Ship Tons

By the United Press

A U. S. MOTOR TORPEDO BOAT BASE, Somewhere in the Solomons, Jan. 15 (Delayed)—United States torpedo boats have

with reinforcements and supplies to Guadalcanal with monotonous regularity.

Traffic over this route now has

Bulkeley's PT's Led U.S. Convoy To Trobriands

Landing Effected Without Firing a Shot; MacArthur Bade Mission Godspeed

PT Boats Block Japs' Attempt To Land Guadalcanal Supplies

WASHINGTON Jan. 17—

MacArthur Party Ran Jap Gantlet From Bataan in Roaring Speedboats

11 PT Boats Rout 20 Jap Destroyers

IN THE WIND

▶ From Oxford, Md., my correspondent Ralph Wiley writes: "Last week at Amesbury, Mass., I had a most interesting conversation with Fred A. Lowell who disclosed some facts that should make our modern mass production artists turn in their grooves. . . . In 1912, Mr. Lowell built and delivered 200 fishing dories within sixteen days, the entire operation being accomplished by only twenty men who worked without benefit of power driven equipment. . . . The business has been owned by Mr. Lowell's family for eight generations and is still going strong. . . .

"Years ago, his grandfather built a 70-ton schooner and the accounting of the venture shows that 70 barrels of rum were furnished to the workmen during the vessel's construction. . . . What modern shipyard can boast of a rum tonnage ratio of a barrel a ton? . . . If we furnished rum at that rate today, we could forget labor troubles, social security, unemployment insurance, and the withholding tax — *in fact, we could forget almost everything.*" . . .

I concur heartily — and congratulate Ralph on his perspicacity, sagacity and capacity. . . .

▶ Among the yacht clubs that bore up bravely under the prevailing abnormal conditions the past summer, Larchmont, Manhasset Bay and Seawanhaka seemed to me conspicuous for their excellent management and the courteous service they extended to cruisers. . . . Getting ice and fresh stores was a problem for the average yachtsman during the season and these and other clubs solved it whenever they could — without making him feel that he was asking favors. . . . The activities of the juniors at Larchmont and Manhasset were delightful to behold. Bronzed boys and gals concentrated on the greatest sport in the world and handling their boats with the skill of veterans in many cases. . . . At Seawanhaka, I saw a little gal who couldn't have been over ten, pulling her baby sister around the harbor in a dinghy and showing that placid confidence in herself that is the reward of these youngsters who are bred to boats and the sea. . . .

▶ "He has been an air raid warden for about a ear and a half. . . ."

— *N. Y. Journal American*

Got that way from listening to the sirens, no doubt. . . .

▶ Pelorus was Hannibal's pilot when the general, after climbing the Alps to no particular purpose, abandoned his elephants, trunks and all, and left Italy. . . .

▶ Inflation is like the weather, according to Mark Twain's classic description. . . . Everybody talks about it but nobody *does* anything about it. . . .

▶ Among the manifold things we are supposed to put up with cheerfully these days is the elimination of pipe cleaners. . . . No confirmed pipe smoker ever used the damn things until his briar was so foul that it wouldn't draw — but then a cleaner was essential. . . . A kind lady gave me a meager packet of the thin type the other day. . . . Now I'm cleaning my pipes after every smoke to make one cleaner do the work of a dozen. . . . Down on the farm, we used to use chicken feathers and I understand that there are some of these substitutes now on the market — dyed artistically and selling at around 5¢ for ten. . . .

Maybe the current shortage of poultry — which we were promised would be plentiful — is due to the fact that they're just killing the birds for their feathers. . . .

▶ Our Pacific warriors are probably doing so well at island-hopping because they're hopping mad. . . .

RIGHT OR WRONG

I love thy *Waves* and *Wacs*,
E'en thy withholding tax,
Thy pretty gals in slacks —
Of these I sing . . .

— Caleb Bilgewasser

▶ Why does it always have to be a *Maine* lobster? . . . I've pulled pots (sometimes legitimately) off the Rhode Island shore and gotten just as tasty lobsters out of 'em as you can get from Maine waters, Monhegan Island included. . . . This is intended as a defense of Little Rhody where I was brought up, not as a reflection on the State o' Maine for which I have always entertained great admiration and affection. . . . I must say I've never savored the like of their lobster *chowder*. . . .

Last time I was in Maine waters was many moons ago — when Rowe Metcalf's original *Sachem* was launched at Thomaston. . . . It was quite an occasion. . . . Teddy Roosevelt, Jr., made a talk, I remember. . . . Not the talk — but the fact that he orated. . . .

▶ "Is your boy Sammy gettin' his commission?" inquired Ikey's partner.

"Sure — the usual twenty per cent."

▶ Right now United Nations diplomacy is running smoothly on all Four Freedoms. . . .

▶ One place you consistently find freedom of the *press* is in the subway. . . . It's a wonderful spot to rub elbows with people — and incidentally have your pocket picked. . . .

The Hudson River is very swell
From the point of *view* —
But not of *smell*.

— C. B.

▶ *This* war's problem is whether we're going to be able to get the boys out of the *slit* trenches by Christmas. . . .

▶ Whatever became of Edgar Guest? . . . Remember he was the sentimental gentleman famed for something that ran something like this

It takes a heap o' livin'
To make a place a home . . .

It takes, in my opinion, a heap o' dishwashin', cleanin' and sweepin' — whether the home's afloat or ashore. . . . Otherwise it's a mess. . . .

▶ With things going the way they are on the Home Food Front we'll be lucky, when ordering rolls, if we can settle for a dog biscuit. . . .

▶ Another fish story comes from the Trobriand Islands where, our army of occupation reports, the dusky natives catch the denizens of the deep by a method so sporting as to cause our anglers at home to wince with pangs of jealousy. . . . Trobrianders are said to equip themselves with enormous spider webs woven by spiders averaging about five inches in length. . . . They fold the webs into pieces six inches by half an inch and then attach these lures to kites made from coconut palm leaves. . . . They fly the kites from their canoes, skipping the webs over the water to attract the fish. . . . When a fish takes the bait, he can't let go. . . . His frantic efforts bring down the kite and the fisherman hauls in both catch and kite. . . .

It sounds like something Rube Goldberg might have thought up. . . .

And it makes trolling from a plane sound practical. . . .

I don't like chaps
Who call *charts maps*.

▶ As everybody knows, the situation at this writing is that if you have an auxiliary sail boat you can't use your motor even if you have gas in your tank left over from last season. . . .

Confronted with this lamentable fact, a month or so ago a yachtsman telephoned the Coast Guard for advice. . . . He asked what he should do if he were out in his boat, got becalmed and, unable legally to start his engine, would therefore be unable to get back to his anchorage before sundown (after which you're subject to being ignominiously towed into some port by a C. G. patrol craft). . . .

The reply was, "You're not supposed to go any place from which you can't get back. . . ."

"But I can sail only a half mile from my mooring and still be unable to get back if I'm becalmed," pursued the stubborn skipper. . . .

"That," said the impersonal voice at the other end of the wire, "is a problem in navigation. . . ."

Maybe the answer is that in such a predicament you should quietly commend your soul to God and open the sea cocks.

TELLTALE

THE BEAUTIFUL CUTTER ASTREA, familiar sight in coastwise and ocean waters before the war, waits patiently in our care till its owner (now in the U. S. Naval Reserve on confidential war assignment) gives the word to shove off... when the seas are free again.

MEN OF TRUST

Before the brilliant victory, must come weeks, perhaps months of tedious planning. That task forces may track down enemy fleets, and convoys continue their heroic treks, many men must work inconspicuously on shore... protecting ships and docks from saboteurs, plans and vital secrets from spying eyes and ears and hands.

Here men of trust are needed. Men of seasoned judgment. Men who know the sea. Here many seasoned yachtsmen serve, backing their sportsman comrades now on combat sailing duty. Using their expert knowledge to speed the job that must be done if yachtsmen are to sail in peace again throughout the world.

JAKOBSON SHIPYARD, INC.

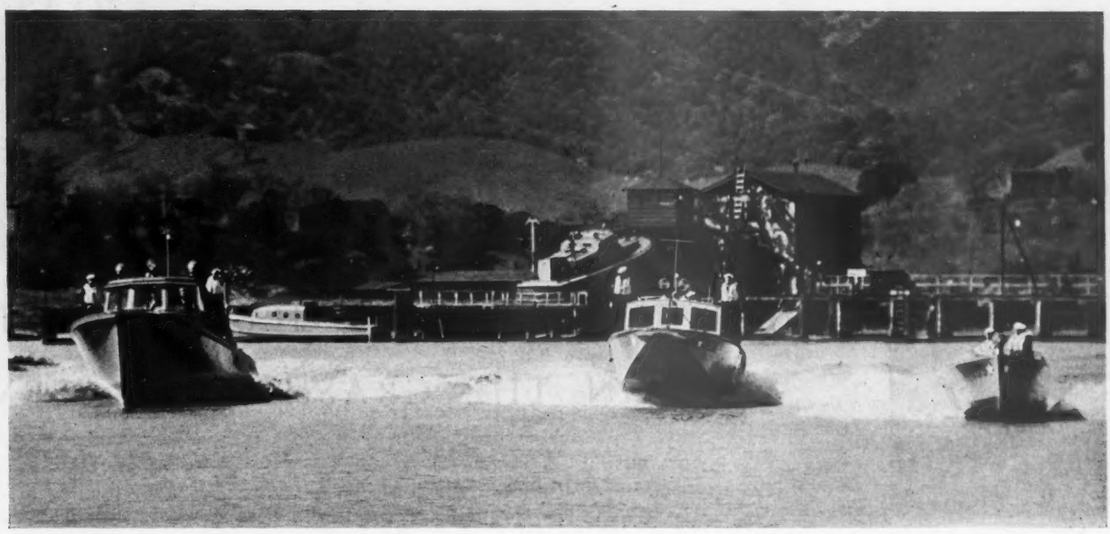
OYSTER BAY • NEW YORK

GOING PLACES!

Bennett Fisher's "Murrelet." With modern gear, she can be handled with a small crew. From a photo by Agnew Fisher

YACHTING

Volume LXXIV SEPTEMBER + 1943 Number III



With motors wide open, three Army Air Force rescue boats attached to Hamilton Field speed to the spot where a plane has crashed at sea. Official U. S. Army Air Force Photo

GET THAT PILOT!

Unsung and Little Known, the Army and Navy's Aviation Crash Boat Fleet Plays a Major Rôle in the War at Sea

By CRITCHELL RIMINGTON

"WASHINGTON — A 40-foot Army Air Force crash boat, manned by six daring men who took their small craft far into the choppy South Atlantic, rescued the entire 71-man crew of an American merchant ship torpedoed and sunk in early May, the War Department has just disclosed. She made two hazardous overnight trips from her unnamed island base to land all of the men. The survivors, adrift from nine to ten days in four open life boats, were transferred later to Miami.

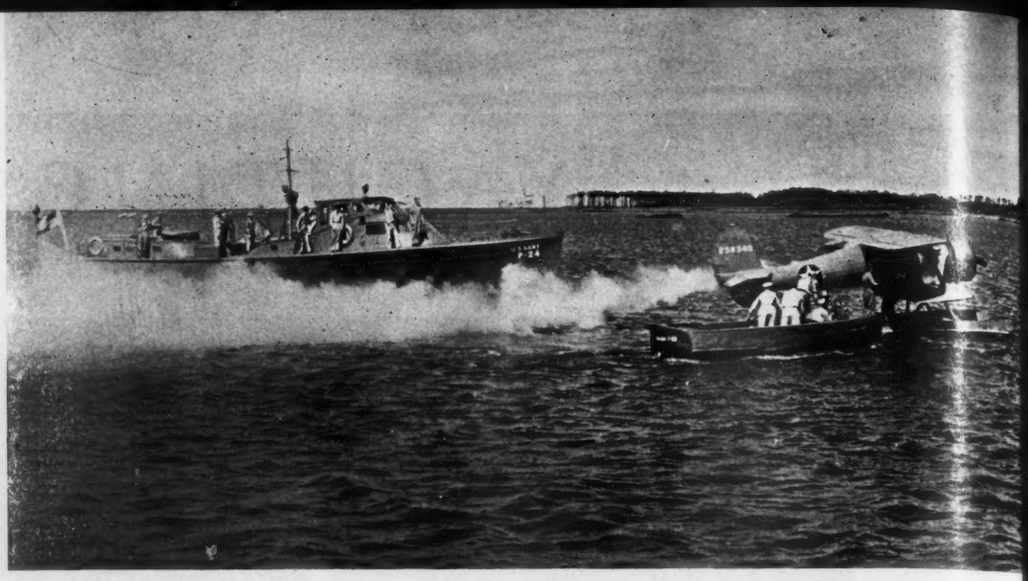
"The crash boat was skippered by Second Lieutenant William C. O'Bryan. He and his crew volunteered for the mission after an Army plane had spotted one of the life boats of a group of four which had become separated two days after the torpedoing. O'Bryan's craft pulled alongside the first one on the second day of her rescue mission and took her 19 occupants aboard. Seventy miles away, she found two more boats and took them in tow. She returned to the base, only to put out again for the last boatload of survivors which she picked up the next day."

This successful rescue mission, described by the press as a "daring exploit" but regarded as a normal operation by the crew which performed it, is but one of hundreds of similar incidents to be found in the logs of those many aircraft crash boats which are operated by both the Army Air Forces and the Navy's Bureau of Aeronautics. It is a service little known to the general public but one which each day is serving to increase the efficient operation of the nation's air forces. The number of lives they have saved, and planes salvaged, makes an impressive figure.

The primary mission of the aviation crash boat is the rescue of air crews who have force-landed at sea or parachuted from a disabled plane. The aircraft is salvaged later, if possible — by other vessels especially designed for this purpose — but the first responsibility is to the men. This calls for speed: speedy communication to advise the crash boat base that a plane is in trouble; fast boats to get to the scene of the crash and back to shore again with the injured men.

The development of the aviation crash boat has in general paralleled the advance of the airplane as an instrument of

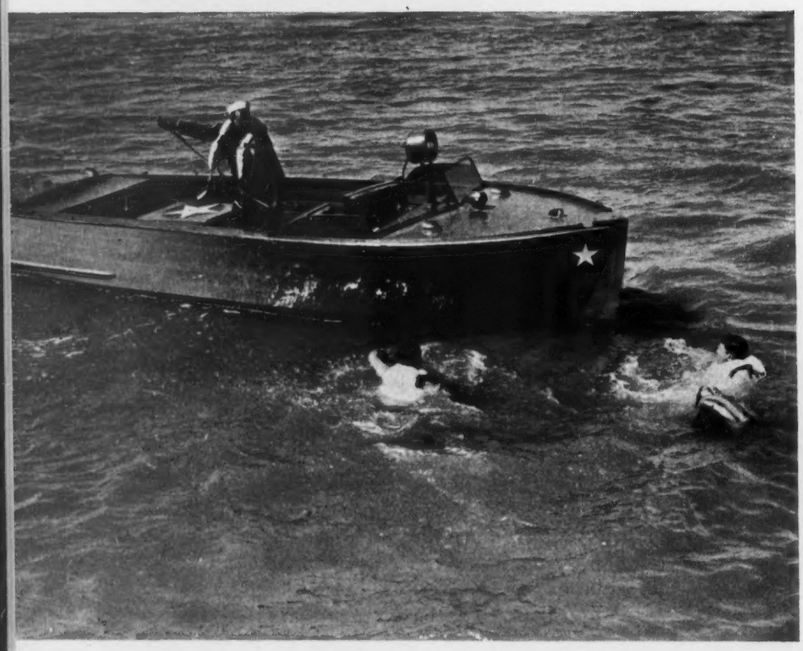
A rescue boat of the Royal Air Force. The hulls of this and similar British craft clearly show the influence of motor torpedo boat design

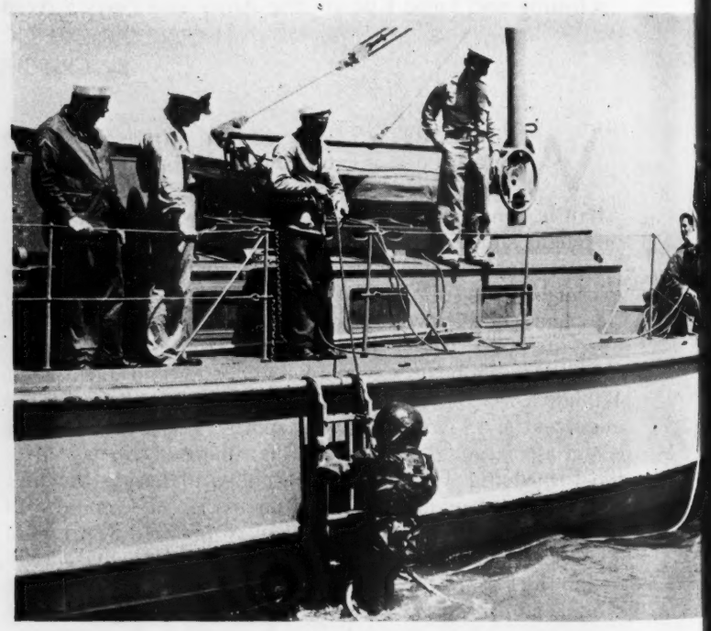


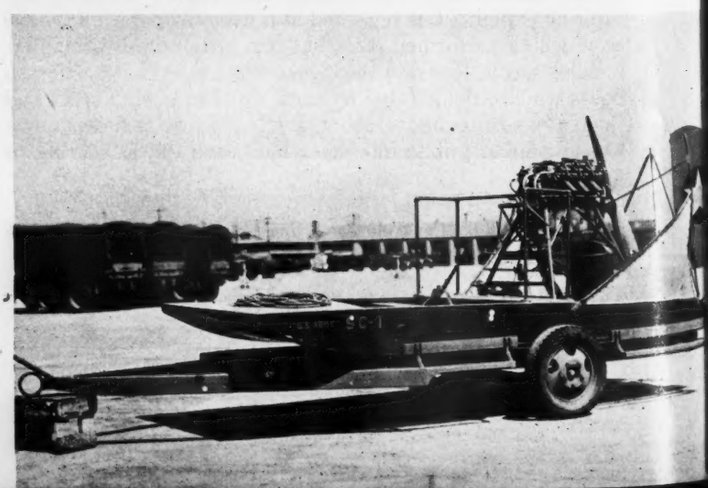
THERE IS NEVER A DULL MOMENT IN THE CRASH BOAT SERVICE

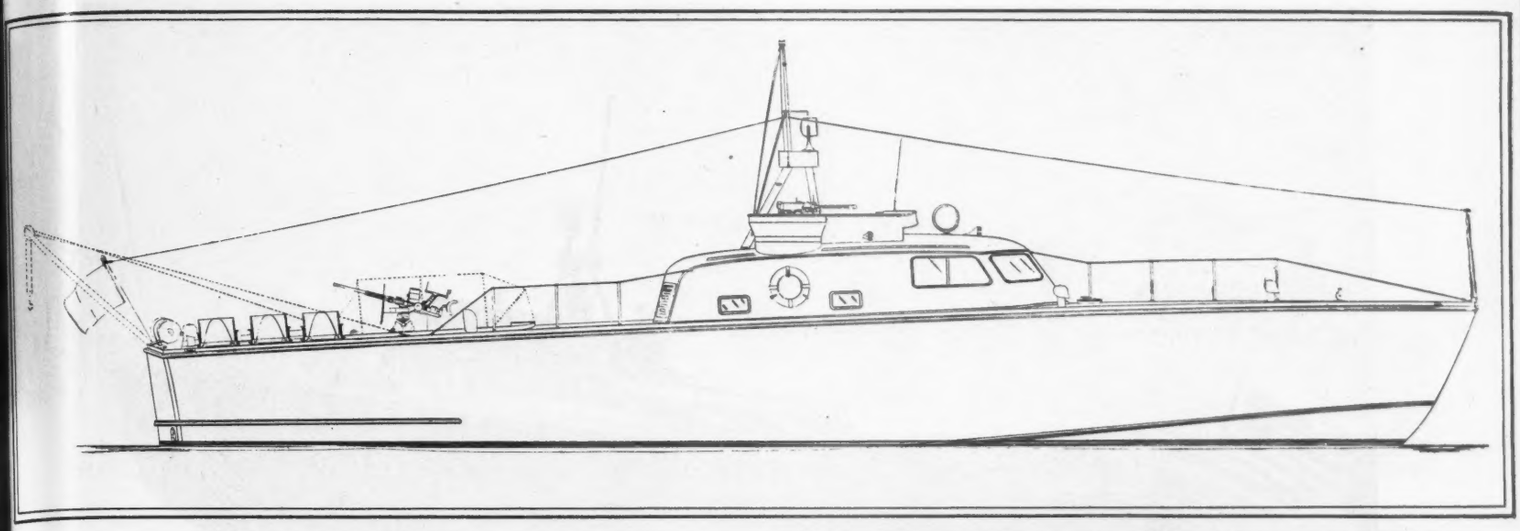
Official U. S. Army Air Force Photos

The use of aircraft crash boats by both the Army and the Navy comes as a direct result of the major rôle which aviation plays in modern warfare. Upper left, each crew member is issued a rubber life suit. Center left, small boats are highly efficient for inshore duty. Bottom left, rescue methods are demonstrated by student crews at the AAF school at New Orleans. Top, often more than one vessel participates in a rescue operation. Center right, divers are often employed in aircraft salvage operations. Lower right, swamp gliders are invaluable in marshy areas. This one is mounted on a trailer









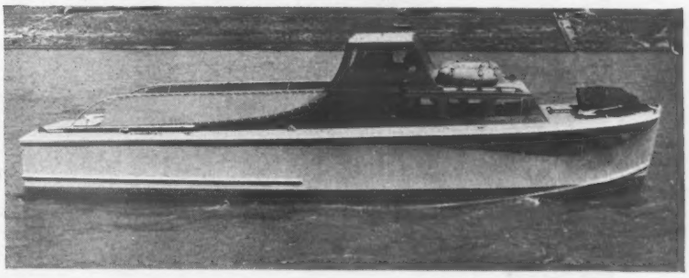
war and, oddly enough, one of the prime reasons for the existence of the aircraft rescue service is a geographical consideration. Army and Navy flying fields are of necessity located in coastal areas for countless strategical reasons. Moreover, a great majority of the bases of both services are adjacent to either lakes or rivers which, for mysterious and hidden reasons known only to aviators, become irresistible landing fields to fledgling pilots — and not always when they are behind the controls of a flying boat! As a result, when a pilot is forced to make a crash landing on the water, someone has to go out and bring him home, to say nothing of salvaging the plane — provided the gods of the wind and sea have seen fit to leave any part of it intact. Hence the crash boat detachment is an essential unit of the base force of scores of flying fields, both here and abroad.

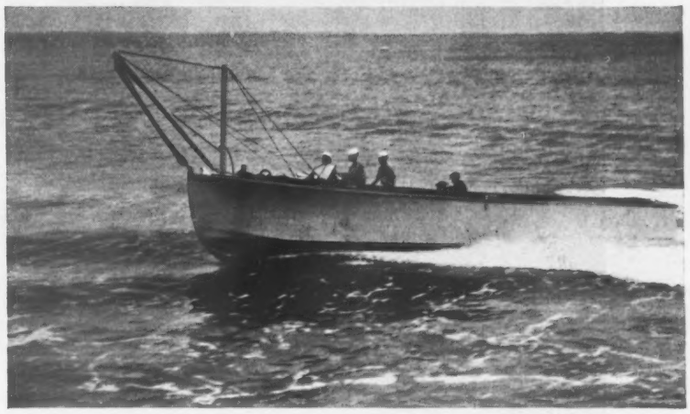
Within the last twelve months, this service has taken on added importance as a result of the amphibious character of the war in almost every theater of operations. Island air bases, the vast increase in shore-to-shore flights and the greater employment of carrier-based planes, have increased the potential number of forced landings. Although it is not the function of these boats to go hundreds of miles offshore on rescue missions, they have a commendable habit of taking on any assignment in which there is a reasonable chance of accomplishing their task successfully.

Although both the Army and the Navy employed various types of small boats for rescue operations in the years before the war, such vessels were a far cry from the modern high speed craft which in recent months have been specifically designed for such duties. It must be acknowledged, however, that it was the British who were among the first to develop the high speed crash boat as we now know her. Three or four years before the war, the Air Arm of the British Navy was doing considerable experimenting with boats designed both by Thornycroft and Scott-Paine. Later, the modern British rescue vessels began to appear in force and, since that time, further developments have resulted in a vessel which has many of the outward characteristics of the modern motor torpedo boat. Capable of high speed and possessing excellent sea-keeping qualities, these vessels are ideally suited for the boisterous waters of the Channel. To date, our boats have been primarily designed for inland and coastal operations in the United States but, as our armed forces have moved further afield, the design of such craft has been affected by the characteristics of the area in which they are employed.

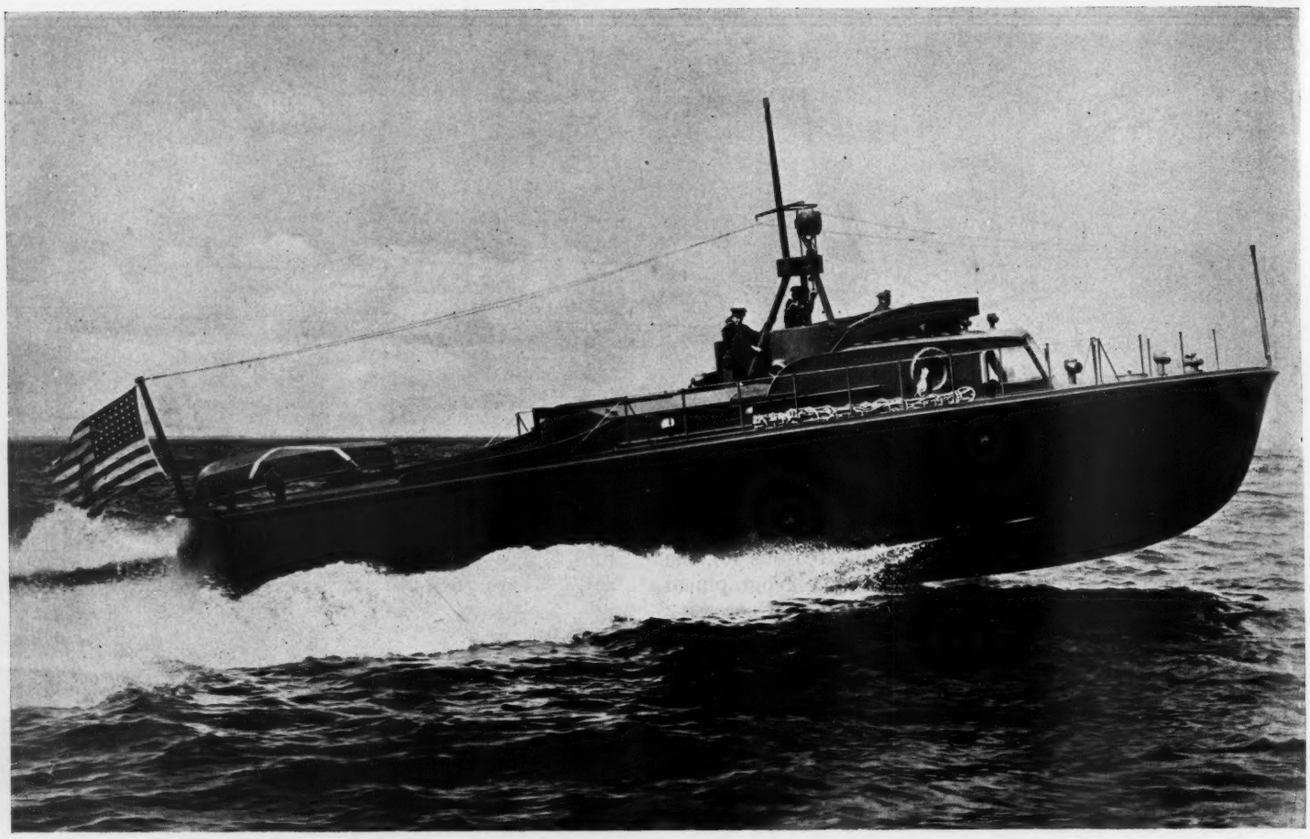
+ + +

Although the Army Air Forces have always had a few boats which were operated at various fields for the protection



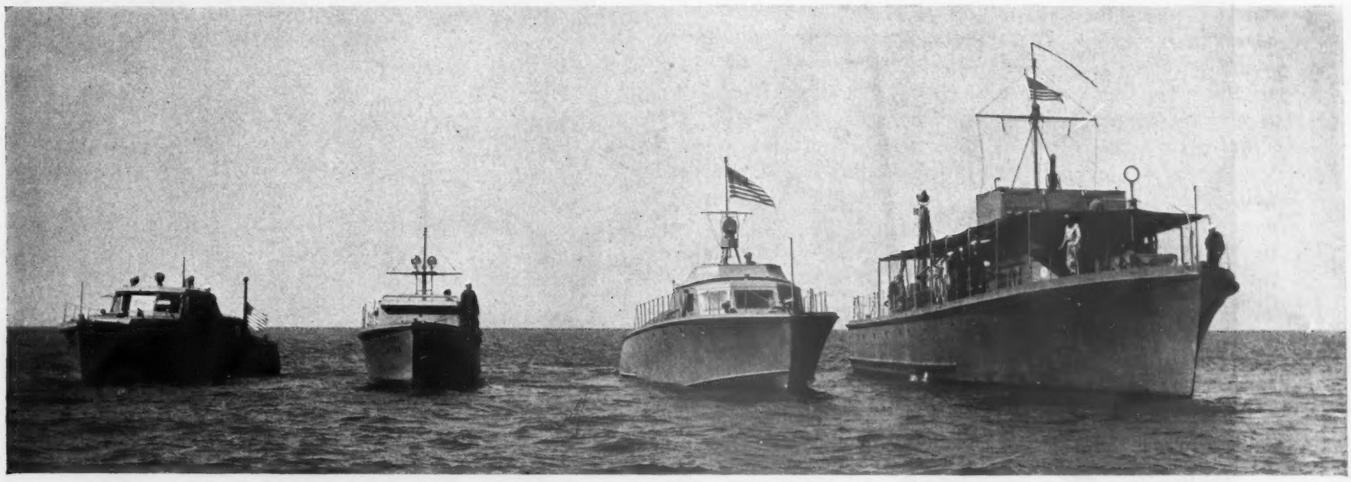


Top, outboard profile of the AAF's new 85' highspeed crash boat. She was designed by Dair N. Long and Associates, and is powered by two Packards and two Chrysler cruising engines. Top right, a 36' Navy craft built by Hilbilt Boats. Right center, Franklin G. Post & Son are the builders of this 45' Navy rescue boat. Bottom, a Robinson Marine crash boat going at full speed. Official U. S. Navy Photos



". . . PLANE DOWN AT POSITION . . ."

Two of the Navy's high-speed 63' aircraft rescue boats. Top, one of the many of this type from the yard of the Miami Shipbuilding Co. Official U. S. Navy Photo. Bottom, this ARB, built by Hubbard's South Coast Co., was the first to be launched on the Pacific Coast. Kent Hitchcock Photo



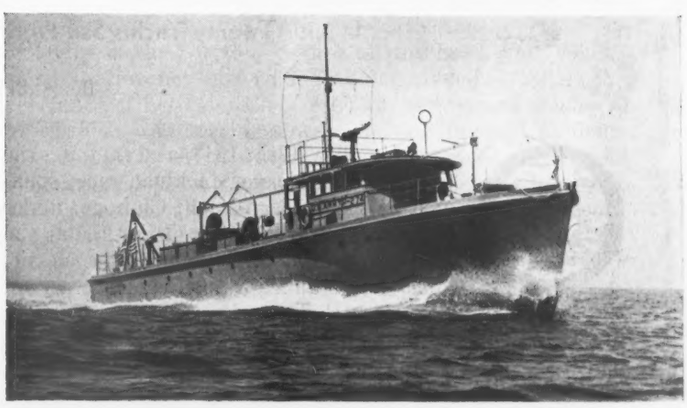
of flyers, no organized crash boat service was established until 1941. Prior to that time, each air base set up its own service, using whatever boats and personnel were available for the purpose. There had always been small boats of some kind attached to the Air Force but the situation was confused by the fact that they were operated by either Air Corps or Quartermaster Corps personnel and, in some cases, by civilians as well. This made for difficulties, not only because of a lack of operational continuity but because personnel qualified to handle the crash boats invariably seemed to be the first to be reassigned to other activities. As a result, the GHQ Air Force decided to establish a specific crash boat service which would be similar in organization to any other combat unit. This was accomplished by setting up what is now known as the Quartermaster Boat Company (Aviation). This service was organized by and now operates under the direction of the Army Air Forces, Air Quartermaster.

When this reorganization took place, the most important problem of all was the procurement and training of boat crews. In the beginning, crews were appointed and were trained with the assistance of the Transportation Corps, Army Service Forces, but it was found that this training was too limited. To provide adequate crews as required and to afford special training to individuals in existing crews, a Maritime School was established at New Orleans under the jurisdiction of the Air Service Command. Men in service who were experienced in small boat operation, civilians engaged in fishing and other shore activities, and yachtsmen were sought out and placed in this new service.

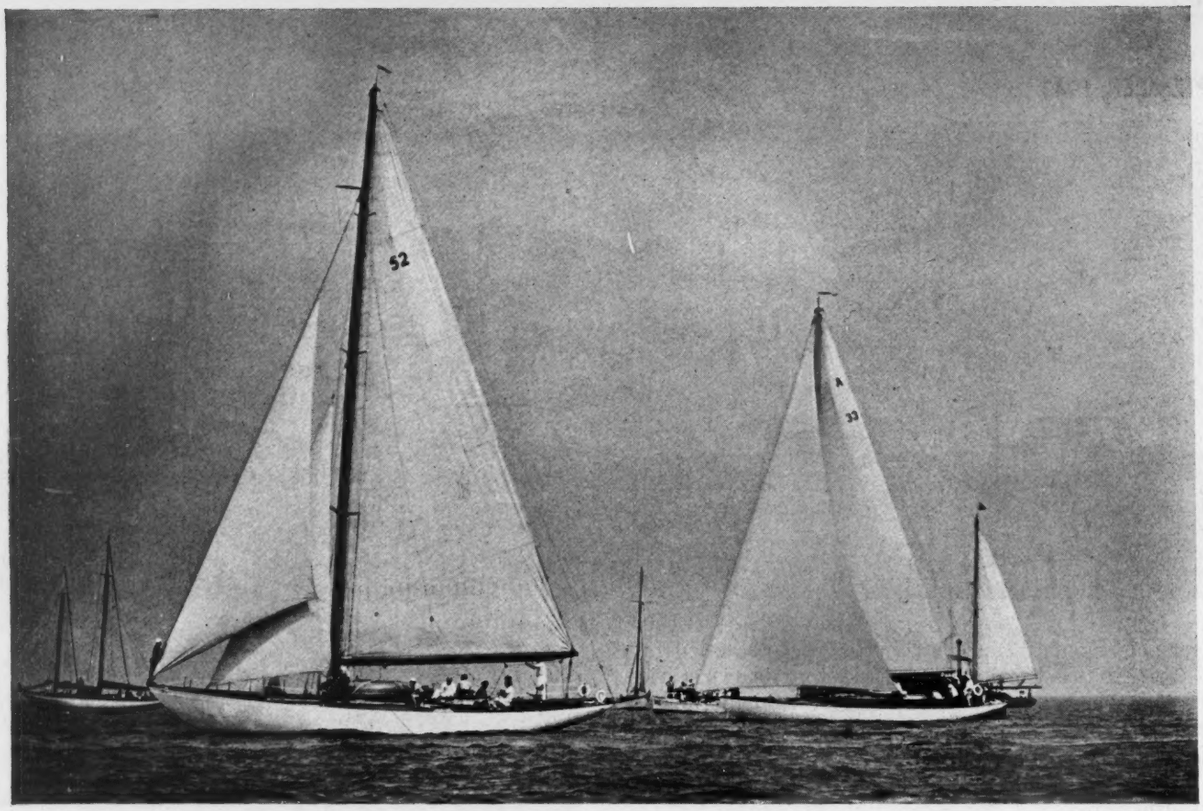
The school is officially known as the 1007th Quartermaster Rescue Boat Operational Training Unit (Aviation), and is under the immediate direction of Colonel J. H. Houghton, A. C., commander of the New Orleans Army Air Base, and Colonel H. N. Williams, Q.M.C., School Director. It has classrooms at the New Orleans lakeside base where its staff and students are stationed and uses docking facilities owned by the City of New Orleans which are located next to the Southern Yacht Club. The school is ideally situated for its purpose, with Lake Pontchartrain and the Gulf of Mexico as handy training grounds.

The basic course is of six weeks' duration. Every man entering the school, whether from civilian life or from commissioned and enlisted ranks of the Army, is given two weeks of basic training during which time he is classified in the specialty for which he is best fitted. At the end of two weeks, the specialists are organized into classes of approximately fourteen men. Here the future mates, engineers, oilers, deck hands, radio operators and those who serve as boatswain's mates begin to fit into their proper assignments.

(Continued on page 90)



Top, four of the various types of boats employed at the New Orleans Air Base school. They range from 42' to 104' o.a. Top right, Sturgeon Bay Boat Works is the builder of this trim 42' Army rescue boat. Center right, this Army 104-footer is from the yard of the Casey Boat Building Co. Bottom, an 83' Army rescue boat built by Cambridge Shipbuilders, Inc.



"White Cloud," last year's winner, leads "Hostess II" soon after the start Chicago Sun photo

AN EASY RACE TO MACKINAC

Twenty Yachts Sail From Chicago in 333-Mile Classic

By ALBERT O. SNITE

ON Saturday, July 17th, 1943, at 1:00 p.m., the 36th annual Chicago-Mackinac race, sponsored by the Chicago Yacht Club, got under way. Twenty yachts crossed the line at the start of this 333-mile fresh water classic, which should afford a good commentary on the determination of Great Lakes yachtsmen to keep going in time of war, in spite of drastically reduced crews, limited materials and the difficulties of provisioning for a long distance race under wartime food rationing. It is interesting to note that there were no sail limitations placed upon the competing yachts due to a possible crew shortage, the problem of sail handling being left to the judgment of each skipper. That the fleet measured well over 50 per cent above that of the 1942 race indicates the prominence of long distance fresh water racing, particularly in view of the almost complete absence of any long races on salt water this year.

At the finish, the slippery double-ended Class Q racer *Gloriant*, with the veteran Anthony ("Cooney") Herrmann at the stick, nosed out all other competitors in the Universal Division to take the Mackinac Cup. In the Cruising Division, W. J. Lawrie's *Lassie* (ex-*Rubaiyat*, ex-*Betty Bro*, ex-*Katinka, et cetera, ad nauseam*) squeezed into first place on corrected time in spite of a blown out spinnaker, walking off with the Chicago-Mackinac Trophy for the best corrected time, and the Harbor Springs Cup for first in Class B.

Second place in the Cruising Division went to John T. ("Bud") Snite's *Tahuna*, while *Bangalore*, bought by the Holsman-Buckley-Cartwright syndicate only a week before the race, was third.

In the Class A cruisers, Robert P. Benedict's 55-foot yawl *Southern Cross*, skippered by the Old Master himself and ably assisted by his daughter Faraday, took the Old Timer's cup for first place. *Wind Song*, Clyde Larish's 36-foot cutter, was first in Class C, winning the Edward M. Mills Trophy, while Hobart (Red) Olson's *Duchess* collected the James O. Heyworth Memorial Trophy for first place in Class D.

Having polished off the mugs, it becomes pertinent to start at the beginning. The Universal Division, consisting of four Class Q yachts, the well-known Eight-Metre *Conewago*, and the Class P *Joyant*, a veteran of earlier days, were sent across the starting line in a light northeasterly wind and sea at 1:00 p.m. At 1:30 p.m., the Class D cruisers, smallest in the fleet, were on their way, while Class C went out at 2:00 p.m., followed at 2:30 by Class B, and at 3:00 p.m. by the large Class A cruisers.

Genoas were in fashion in the light beat at the start and, as the wind became even lighter and at times dropped to nothing, those who had "drifters" broke them out. Light "shifterlies" prevailed until about 8:00 p.m., when a light breeze from the northwest quarter gave the "go" signal again, and all yachts squared away on the long 203-mile course to Point Betsie. This wind allowed us to "steamboat" up Lake Michigan and created no breaks for any particular yacht. At dusk on Saturday, the fleet was still fairly well bunched by classes, the wind not being strong enough to allow the larger yachts to overtake the earlier starters materially. In *Tahuna*, we took our departure from Glencoe Shoals buoy, carrying a genoa and mizzen stays'l as darkness fell, and slowly drew away from the rest of our class except *Lassie*, for which the light reaching wind and smooth sea conditions were ideal.

Sunday dawned fair, with the yachts still close-reaching.

The cutter "Lassie," owned by W. J. Lawrie, took the Chicago-Mackinac Trophy and first in Class B

We held our course parallel to and a few miles west of the rhumb line to Betsie, and could discern all four Class A cruisers (three yawls and the big cutter *White Cloud*), bunched together and abeam to starboard. *Lassie* was dogging us a few miles astern, and we couldn't get away from her. By afternoon, the Class A yachts, still well grouped, led us by several miles, while our position relative to *Lassie* remained unchanged, much to our annoyance. Still, with one-third of the race gone, the discomfiture on the A boats must have been considerable to have two smaller yachts so close astern.

Our landfall was at Little Sable, which came abeam at 3:00 p.m., about 15 miles to starboard. By this time, the wind, still light, had faired enough to allow us to carry a spinnaker in place of our genoa, and we were quickly copied by the Class A yachts ahead and the now slowly receding *Lassie*. By 8:15 p.m., Big Sable Light was abeam and we were slipping along the steamer lane, bound for Point Betsie, and closely watching the northwest for signs of the proverbial squalls so common in this area. The reaching breeze slowly died and, as darkness fell, we waited for our next wind, knowing that a shift was due. Before midnight it came — out of the north — and we quickly shifted to genoa once more and doused the mizzen stays'l. We sailed NW for a short time and, as the breeze faired, came back on our course to Point Betsie. We were finally able to ease our sheets, bringing Betsie close on the beam at 3:20 a.m. on Monday. Then off for the Sleeping Bear, that semi-mystical (to the yachtsman) great dune of sand which stands to the south of the Manitou Islands, influencing the winds by its heat in daytime and by its coolness at night.

At dawn, we could discern the "sleeping bear," nose on forepaws and haunches high, atop the dune on our starboard beam; and we picked up the Class Q racer *Hope* abeam as the light came. In the light reach we sailed evenly and she rounded North Manitou Light as we did, at 6:30 Monday morning. Ahead we could see the Class A cruisers and a lone Universal dim in the morning haze, while *Lassie* still hung faintly but grimly astern.

The breeze lightened and finally died out by mid-morning and we held light sail drill, attempting to benefit by each cat's-paw that came our way. *Hope* slowly worked out ahead in the ghosting, and we enviously watched her leave us, thinking of the Class A ahead and of *Lassie* not far enough astern. We sat, barely keeping steerage way.

Before noon, a breeze struck in on the port quarter, and out came the spinnaker and the mizzen stays'l once more. Rapidly the wind picked up until we were romping, with the apparent wind almost abeam and the yacht beginning to yaw now and then in the steep short seas under her counter. At 4:00 p.m., Grey's Reef light was abeam and we were roaring up the narrow channel to Number 5, that last milepost of sailors in this race.

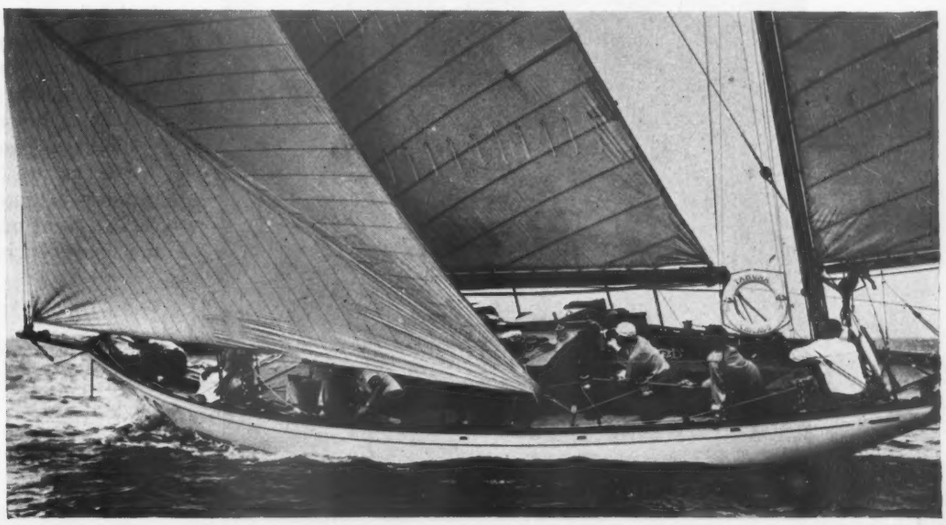
We jibed spinnaker without taking it off at the buoy and stood east, down to the finish 26 miles away; with high hopes of saving our time on the Class A yachts, now lost in the haze ahead, and of losing the pursuing *Lassie*. Everything but the proverbial "kitchen sink" was set and we flew down the Straits of Mackinac with the "steam gauge" reeling as we coasted before the seas, the skipper sweating at the wheel and the navigator checking off the familiar lights and shore marks. Now we could again see the four Class A yachts dimly in the distance ahead, not slashing for the finish line but standing up, almost becalmed, some with spinnakers set and some beating up to the line.

Caught in the variable breezes off the finish line, which truly blow now hot, now cold, *Trident* gambled on the south shore and set her spinnaker, overtook and passed *Southern Cross* which was beating slowly up, and finished at 6:36 p.m.; *White Cloud*, guessing on the north shore, also set a spinnaker and passed *Southern Cross* within a few hundred yards, going on to finish at 6:38. *Southern Cross* was well within her time on both yachts, however, and followed them across at 6:40 p.m.

Meanwhile, leading the Class A cruisers by only a brief span were two Q class racers, *Gloriant* and *Falcon*, both of which squeezed across the line within feet of Round Island, *Gloriant* being first to finish and beating *Falcon* by a matter of 37 seconds after 333 miles of racing! In a span of twelve minutes, the harassed Race Committee gave the finishing gun to eight yachts and collected more headaches and some burned fingers from a finishing gun which couldn't cool off.

Tahuna reached out of the wind within a few miles of the finish and we visualized sitting becalmed while the A cruisers

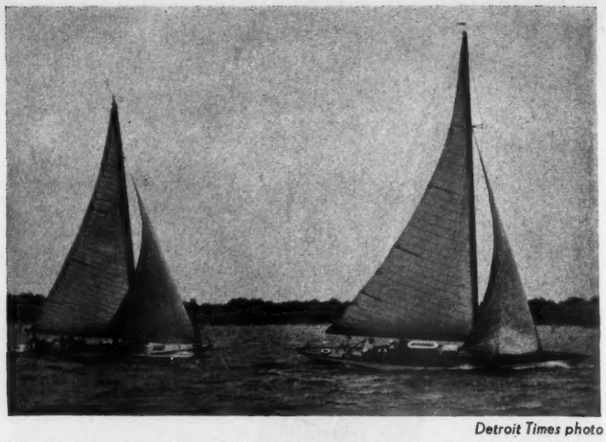
(Continued on page 66)



John T. Snite's "Tahuna," second in Class B, Cruising Division
Chicago Sun photo

THE DETROIT-MACKINAC RACE

By GEORGE E. VAN



Detroit Times photo

"Shamrock," Ernie Grates' Eight-Metre, winner in the Racing Division, leading Eddie Wunsch's New York "30" "Minx"

THERE were a lot of old boys in this year's Port Huron-Mackinac race who didn't like the looks of the weather at the start. True, most of them had dipped their beaks in the cold waters of Lake Huron in other Mackinac trips but the novelty of sailing in wet clothes and trying to nap in a soggy bunk had long since worn off.

But it didn't turn out that way. The lively west wind which caused many a skipper to debate his choice of reaching with a "jenny" or a wee jib (the former turned out to be the better sail) had faded as the leading boats came ghosting up to Harbor Beach, 60 miles from the start. That was about midnight, 10 hours after the start off Gratiot Beach, on July 17th.

There were sixteen starters in this year's race, of which nine were in the Racing-Cruising Division, with five in the smaller Cruising Division, and only two in the Racing Division — *Shamrock* and *Pintail*, both Eight-Metres. The ultimate winners in these divisions, just in case you cannot wait until the story of how the race was sailed has been told, were *Apache*, sailed and owned by Wilfred ("Toot") Gmeiner in the big class; *Rambler VI*, owned by Andy Langhammer, in the small cruiser class; and Ernest Grates' *Shamrock*, which beat *Pintail* by an hour, in the racing class.

Up to Harbor Beach it had been a fine ride for all hands, and our ship, *Apache*, a New York "32," was then up in a good position. *Josephine III*, a 64-foot yawl, once owned by the late Edsel Ford, was several miles offshore about a mile ahead but we were well within our time.

"Apache," owned by Wilfred Gmeiner, took first place in the Racing-Cruising Division

Estrellita, 52-foot Alden yawl of George Naumann, was pawing along about a quarter mile ahead. Ernie Grates' Eight-Metre *Shamrock*, in the racing class, had been on our tail all afternoon and still dogged our wake as we had the Harbor Beach Light about a mile abeam. *Sonata*, 49-foot cutter which had won in '37 with Roy Williams and was sailed this year by "Stu" Rackham, then picked up a zephyr and went by all of us excepting *Josephine*. Dawn found the leaders reaching across Saginaw Bay at a seven- to eight-knot clip. *Apache* had caught *Sonata* and then dropped about a mile to leeward. *Josephine* was to windward of *Sonata* and still about a mile, maybe two miles, ahead. *Estrellita* was behind *Sonata* and moving up on her weather side. *Shamrock* was a quarter-mile behind *Apache* and, almost hull down, we could see the sails of yachts which we later learned were *Vitesse*, *Pintail* and *Minx*.

The 90-mile leg from Harbor Beach to Thunder Bay Island was one of those things a sailor dreams about. Meals came regularly and skippers and crews were happy because all of us among the leaders were in the running as the boats romped along under a cloudless sky in a blue sea.

Josephine III, sailed by Tom Petzold this year, was first up to Thunder Bay Island but got in a flat spot inshore and slatted about for three hours. Meantime, *Apache* passed her and everything seemed rosy aboard Gmeiner's ship because only *Sonata* was ahead at this point and she was well out in the lake.

Then *Apache*, trying to sail as close to Thunder Bay Island as possible because it's the shortest course, ran into the same bobble that had ensnared *Josephine*. This lasted for 20 minutes but her crew aged as *Shamrock*, only a quarter-mile away, caught first the freshening wind which came directly on the nose down from the Straits of Mackinac. *Sonata* came in on the wind shift, which breezed up to 25 miles, and, before *Apache* freed herself, *Sonata* was almost hull down and *Shamrock* had us by more than a mile.

But there were still 100 miles to go and *Apache* always had behaved well on a good buck. She didn't let us down. She was shaving *Sonata's* lead perceptibly as she slogged past Misery Bay. But we weren't doing much with *Shamrock*. It was her weather, too.

Just before reaching Middle Island, *Apache* and *Sonata* split tacks, *Shamrock* crossed the latter's bow and, clocking our tacks, we found we were only a few seconds over four minutes behind Rackham's ship. *Apache* played the shore as *Sonata* went out into the lake and, as many another Mackinac skipper has learned, sailing near the grass pays off

(Continued on page 98)

SEPTEMBER, 1943

RUBBER NAVIGATION FOR RUBBER LIFE BOATS

Simple Gadgets Will Help Solve the Problem of the Lost Vagabond

By HARLAN T. STETSON

Official U. S. Navy Photo

With a "Gibson Girl" and a kite or balloon to raise the aerial, the occupants of a rubber raft can send out an SOS or receive time signals

THE melodramatic story of Eddie Rickenbacker's forty days and nights in a rubber life boat has now percolated into every nook and estuary of the country. This experience has doubtless stimulated the imagination of inventors, for now one reads suggestions for every kind of an emergency contrivance for life raft equipment. These extend from food tablets to methods of extracting drinking water from fishes' interiors.

However, I'll leave for the other fellow the thinking up of such equipment as is necessary to sustain life while hoping to be discovered by some chance vessel or the dawn patrol. What interests us right now is what sort of emergency navigation a fellow can fall back upon for discovering his whereabouts under such circumstances. When the usual navigational equipment is lacking and one is no longer pressed for time, simple gadgets will help solve the problem of the lost vagabond. Such gadgets should be weatherproof, inexpensive and capable of being stored in a flap of every life raft. With even rudimentary equipment, the lost souls can at least have the satisfaction of knowing approximately how many thousands of miles their raft may be from the nearest land and in what direction terra firma lies.

The first of these would be a chart of the world with parallels of latitude and meridians of longitude upon it. This chart also should have the isogonic lines — the lines that show the variations of the compass over the oceans (Fig. 1.) It should be printed on waterproof material, like oiled paper, which wouldn't sink if cast adrift. If there was a more detailed chart of the particular ocean over which the plane was flying, so much the better. However, since on short notice airplanes may be consigned to all sort of routes, I would insist that a map of the entire world be in every rubber life boat. It is a good bet that a plane by any accident will not leave the earth. When, and if, a rocket plane materializes, probably one would need a chart of the solar system to pick a likely planet on which to land if cast adrift in space!

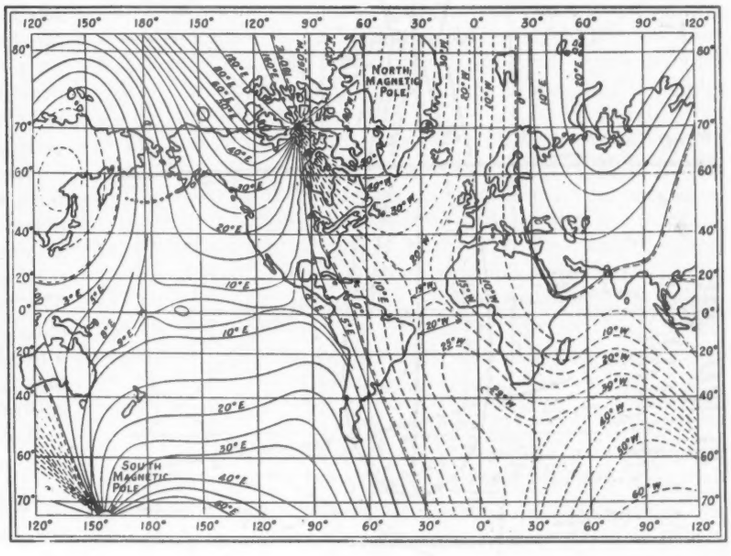


Fig. 1. Mercator chart of the entire world with isogonic lines showing the variation of the compass

Now for the compass. This, of course, should be a flat pocket affair with a movable card within a sealed case made of plastic, so that this too could be retrieved if dropped overboard. As for the conventional indispensables for ordinary navigation, namely, the lead, the log and the lookout, one has little need for worry. Under the predicament of our straying survivors, I fancy their chief desire would be to hit bottom somewhere, though surf on an outlying reef might prove disastrous. At any anticipated rate of progress, probably no log would render the drift accurate. As for the lookout, I fancy everybody aboard would be constantly on the lookout with so little else to distract one's attention from the sea and sky.

Now there must be some gadget for measuring angles. This is quite indispensable. There are all sorts of convenient contrivances which one can think of that could take the place of an elaborate sextant, an instrument too expensive and delicate for standard equipment in every life raft. The sextant, too, is easily lost or damaged. The angle-measuring-device for the emergency purpose considered should be made of hollow plastic so it too would not be lost if dropped overboard. The material would also be proof against sea water

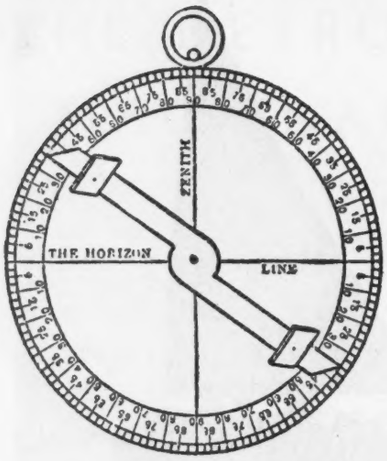


Fig. 2. A sketch of the mariner's astrolabe which was commonly used in the Fifteenth, Sixteenth and Seventeenth Centuries

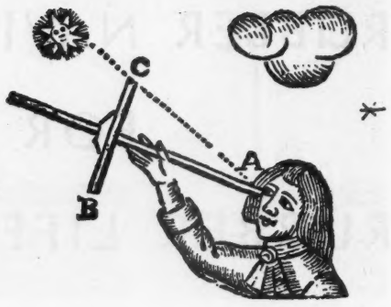


Fig. 3. The cross staff in use. The line from the eye to the point B is the horizon line. From an old wood engraving

corrosion. Probably the simplest gadget of this kind would be patterned on the astrolabe. This was the constant companion of the ancient mariner and was used by Columbus on his famous voyages. The astrolabe (Fig. 2) was designed to be suspended from the thumb and steadied so that the horizon line is directed to the horizon. The index arm is then turned until one sights the sun through the sights provided. The altitude of the sun is then read off directly. If I were designing one of these devices, I would have a scale of degrees marked zero at the zenith and 90° at the horizon so that one could read the zenith distance of the sun directly.

There is another simple and inexpensive old instrument known as the cross staff, which measures along a stick the angles subtended by a cross piece that is made to fit between the horizon and sun or star as seen from the extremity of the staff (Fig. 3).

This has been reproduced in recent years for instructional purposes by the Eastern Science Supply Company of Boston. It consists chiefly of a wooden stick about a yard long and a crosspiece that will slide along it and subtend different angles at predetermined positions from the eye. The scale of these subtended angles is printed on the stick along which the crosspiece slides. The actual specimen described has three scales which are used for measuring small, medium or large angles depending upon which of the three steps on the crosspiece are utilized for the sight. Being of wood, this valuable instrument will not be lost if washed overboard or, at least, if there is a paddle aboard by which one may retrieve it. Harvard's distinguished historian and our noble yachting colleague, Sam Morison, carried one of these on his late research cruise to the Caribbean retracing the route and remaking the observations of Columbus.

With this cross staff or astrolabe, the altitude of the sun can be determined around noon. The maximum angle of the sun above the horizon will serve as a meridian sight. From this "noon sight," the observer can deduce the latitude probably within one half of a degree. (Hint: the booby navigator should make his observations when sitting in the exalted position of a wave top. Any attempt to observe in the depression of a trough would be most discouraging as no correction table for the height of white caps is available.)

One may wonder how the sun is to be sighted with a cross staff with the naked eye. It is a rather dangerous proceeding, if one values his future eyesight. On the side, I once had a friend threatened with blindness who insisted he cured his failing vision by staring directly at the sun for minutes at a time. However, I am still skeptical and wouldn't recommend the proceeding. Wanting any satisfactory dark glasses such as are found on every sextant, a tiny pinprick in a card held before the eye will diminish the sunlight reaching the retina so that, with reasonable security, one finds it not difficult to look directly at the sun through this microscopic aperture. The slide on the cross staff can be adjusted so that, when it is held in the up-and-down position, the lower edge of the crosspiece touches the sea horizon and the upper edge passes through the center of the sun. It is good, too, to remember that the sun is just about a half degree in diameter. The same is true for the moon. The advantage of the cross staff, like the sextant, is that it subtends a definite angle between the horizon and the object sighted, and is not dependent on a swaying plumb bob or a dancing level bubble which is practically useless in a small boat in any sea. When the sun is high, the cross staff is difficult to use. This is where the astrolabe is to be preferred.

One doesn't need to be an astronomer or to have served a term with the United States Coast and Geodetic Survey to determine his latitude from the meridian altitude of the sun at noon; nor for such rubber lifeboat navigation does he need any correction for index error, parallax and refraction. The formula is simple for arriving at latitude. In general, it equals the sun's zenith distance (90° minus the measured altitude) plus or minus the sun's declination. The problem now is to know the sun's declination and whether to add or subtract it.

We'll assume that the life raft doesn't boast a library that

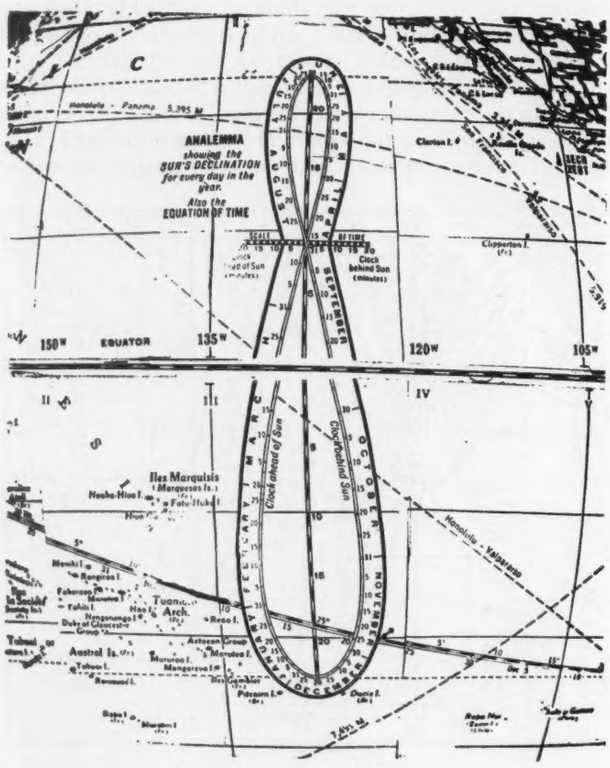


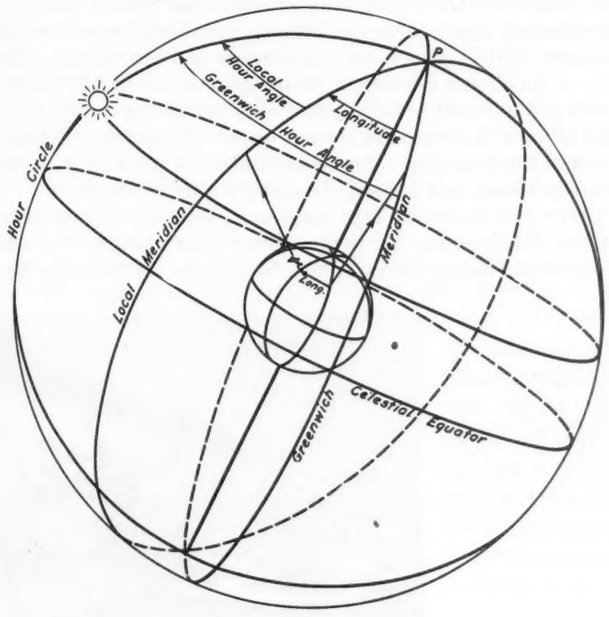
Fig. 4. The analemma, printed on the globe, is a convenient diagram for finding the sun's declination and the equation of time for any day of the year

includes a *Nautical Almanac*. The sun's declination is so nearly the same for corresponding dates every year that a table of declinations for the sun for every ten days for a year could be printed on the back of the astrolabe or on the stick of the cross staff. Even without a declination table, one could arrive somewhere near an approximation by remembering that the sun's declination is zero at the equinoxes (March 21st and September 21st) and 23½° north on June 22nd and 23½° south on December 22nd. For intermediate times, the declination could be approximated by interpolation. The form of the declination curve is something very much like the form of the tidal curve, only a bit more irregular.

Interpolation for the declination for a month or two either side of the solstice (June 22nd or December 22nd) is bad since the declination changes slowly at that time of the year, just as the tide changes slowly in the first hour or two before and after the turn of high or low water. This is where the analemma would come in handy. The analemma is the conventional diagram printed on every globe, usually somewhere in the Pacific Ocean.

It gives the sun's declination for practically every day in the year and also the equation of time, a useful addition if one has the means of finding longitude. The analemma might be nicknamed "Aunt Emma" for it roughly bears a resemblance to a mid-Victorian torso, suggesting a slightly boyish figure (Fig. 4). If it were only always true that when the sun is south of the equator and its declination is minus, the declination is to be subtracted from the zenith distance; or when the sun is north of the equator and the declination is plus, it is to be added to the zenith distance, the problem of latitude would be all sewed up. Since, however, our vagabond navigator might be stranded in the southern hemisphere or within the tropics, some interesting situations arise which are best depicted by the diagrams adjoining. This is navigation for latitude in pictorial form reduced to minimum space (Fig. 5). Each diagram tells its own story.

When night comes on, the sky is flooded with lighthouses of space, any two of which, with sextant and proper navigating equipment, would fix the position. But how helpless one must feel, even though he knows the stars well enough to call them by name, when such equipment is lacking. However, north of the equator, there is always the Pole Star from which latitude can be determined with simple arithmetic. The altitude of the celestial pole above the horizon is always equal to observer's latitude. Unfortunately, the Pole Star is



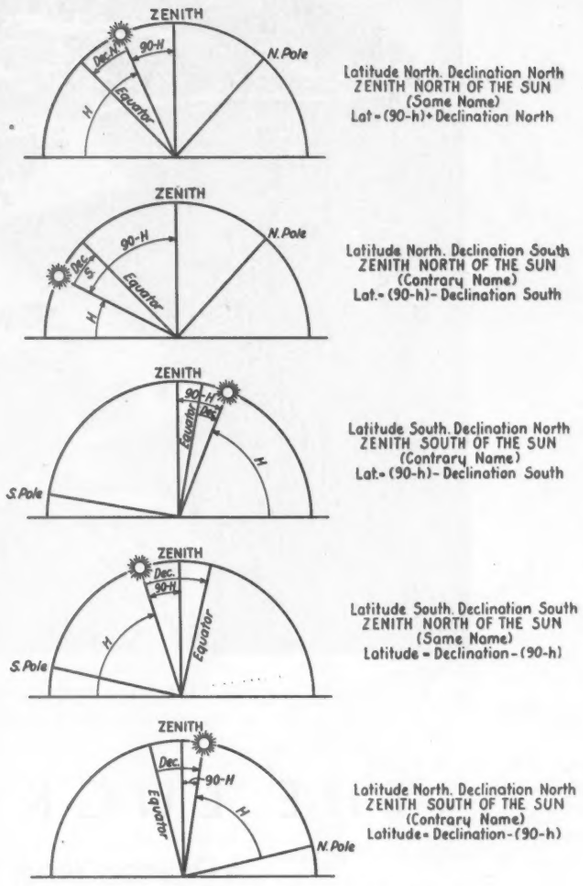


Fig. 5. How to find the latitude from a meridian altitude for all possible cases

not exactly at the pole about which all the stars in the sky revolve. There are always two times, however, during the 24-hour-day when the altitude of the Pole Star is the same as the altitude of the pole. This, of course, is when the North Star is either directly to the right or to the left of the true celestial pole. Fortunately, there are guiding stars in the neighborhood of the pole to enable the emergency stargazer to tell when this occurs. Straggling off from the Pole Star is the Little Dipper, having two fairly bright stars on one side of the bowl. On the opposite side of the North Star from the direction in which this Little Dipper trails, is an irregular W characteristic of the constellation Cassiopeia. A line from the star at one knee of this W passing through the Pole Star also arrives at the bright star Mizar in the bend of the handle of the Big Dipper. When this line is horizontal, the Pole Star is east or west of the true North Pole, and if the altitude of the Pole Star above the horizon is measured at this time, the result is at once the latitude of the boat (Fig. 6).

It is surprising how with a little practice, one can even estimate by the eye alone the altitude of the North Star, remembering that from the horizon to the point directly overhead is 90°. There are other convenient yardsticks in the sky that in one's imagination may be transplanted to measure the distance of the Pole Star above the horizon. One of these is the extreme length of the Great Dipper from the tip

(Continued on page 80)

Fig. 7. Longitude is the difference between Greenwich time and local time and is always equal to Greenwich apparent time when the sun is on the meridian of the observer. (Greenwich apparent time is Greenwich civil time plus or minus the equation of time.)

Wide World

Fort Mills, on Corregidor, just across the channel from the Harbor of Mariveles, the port from which the adventurous voyage was begun

THE LUCKY "LANIKAI"

A Dangerous Voyage Through Jap-infested Waters

By CHARLES A. WALRUFF

Lieutenant, USN

THE schooner *Lanikai* rode at anchor in Manila Bay, surrounded by grim warships and sleek pleasure boats. No one gave her a second look. After years of service in many seas, her rôle was now that of a rendezvous for "tired business men" of Manila. Although she had a powerful and economical old Diesel engine which could shove her along at about six knots, this once proud yacht was now a floating barroom — sad, bedraggled and ashamed.

Just a month before the Japs made their attack on Pearl Harbor, Admiral Thomas C. Hart, then Commander-in-Chief of the U. S. Asiatic Fleet, had directed that certain small craft be bought from their local owners for auxiliary service in the Navy. Every suitable vessel in the Philippines, including President Quezon's official yacht, was thus pressed into service.

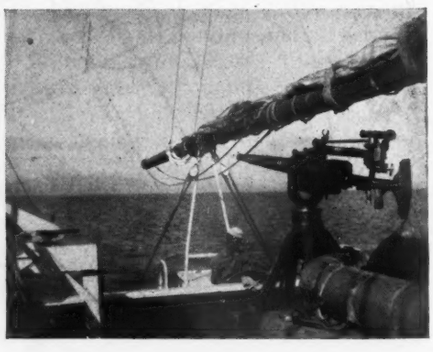
This order lifted *Lanikai* from her ignominous position and placed her in the proud ranks of the *Constitution*, the *Houston*, and the *Marblehead*. She was bought for the Navy and commissioned as a unit of the Asiatic Fleet. Her duty was to haunt the French Indo-China coast, the South Sea Islands, and any other places where she could gather and transmit information about enemy activities.

She was taken to the Cavite Navy Yard, across the Bay from Manila, for overhauling. With an over all length of about 70′ and a beam of 18′, there was not much clear space on deck after the installation of two small motor boats. A deckhouse, abaft of the mainmast, provided space for the skipper's cabin, plus a small messroom and charthouse. The top of this house afforded a bridge deck of about 15′ by 18′, used as a navigating bridge, gun deck and living quarters for the officers. A second deckhouse, about 10′ square, was built around the foremast. This room contained the galley, some storage space, and housed the electric anchor winch.

After her induction into the Navy, her crew consisted of twelve Filipinos, and six petty officers. Her new captain was Lieutenant Kemp Tolley, USN. Kemp was a product of the

Officers of the ship: left, the author; center, Lt. Comdr. Charles Adair; behind him, Comdr. H. H. Keith, all USN; right, Lt. Paul Nygh, of the Royal Netherlands Navy

The main battery of "Lanikai," a 3-pdr. rapid fire gun. Her armament also included a pair of .30-caliber machine guns and one of .50 caliber, obtained at the last minute



U. S. Naval Academy, alert, intelligent, and at home on the bridge of a battleship or at the helm of a sailing vessel.

Armed with a 3-pounder rapid fire gun and two .30-caliber machine guns, *Lanikai* was as shipshape and ready for active duty as it was possible to make her in the short time allotted for her overhaul. Mustering his crew at quarters, the commanding officer, with due solemnity and in the traditional manner, read to them the orders which directed him to assume the command. Then, with the hoisting of the American flag to the maintruck, the U.S.S. *Lanikai* was officially launched upon her career as a man-o'-war. It was two months before I saw her again, and under quite different circumstances.

It did not seem much like a holiday to me, this December 25, 1941. Admiral Hart had moved naval headquarters somewhere to the southward. Manila had been declared an "open city," and General MacArthur was moving all his forces into the hills and jungles of Bataan. It was on this sad Christmas day that I arrived in Mariveles Harbor with a truckload of radio apparatus, salvaged from our naval communications headquarters in Manila.

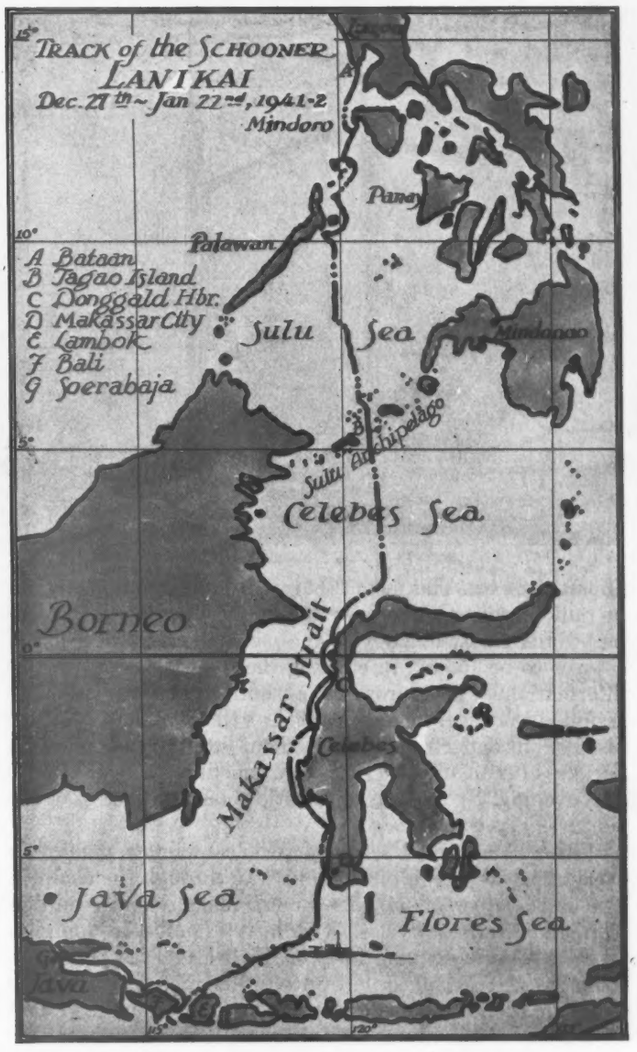
Mariveles Harbor, with the mountains of Bataan on the one side and the island fortress Corregidor just across the channel, formed a perfect little pocket into which the Japs dropped bombs at regular intervals. It was hard for them to miss, since it was almost like dropping coal down a chute. Even so, they could and did miss the many small craft engaged in various activities between Bataan and Corregidor. Maneuvering around the Bay, inside the submarine nets and mine fields, these vessels dodged the frequent, high altitude bombing attacks and went on about their business.

Among all these brave craft was the old *Lanikai*. Although slower than most of the others, she was much smaller, which made her lack of speed no great handicap in this game. This was fortunate for her because she alone, of all that group, still retained her white, peacetime paint job, and she stood out conspicuously in contrast to the slate-gray war color and camouflage of the other vessels.

The day after our arrival at Mariveles Bay, I met Lieutenant Commander McCoy, who had just arrived from naval headquarters on Corregidor, and learned that *Lanikai* was planning an attempt to escape from the Philippines. The purpose of the trip was to deliver some badly needed radio equipment to Admiral Hart's new headquarters, as well as to enable some of the Admiral's staff officers to rejoin him. We did not know where the Admiral was located but we believed this information could be obtained, once we were clear of the Jap-controlled areas. All who were going on this mission were to do so on a purely voluntary basis, since the risk was considered to be practically suicidal.

It had been decided that, in addition to the passengers already scheduled for the cruise, one radio officer and two enlisted radiomen, plus all the communication equipment available, should be included. McCoy said: "That makes you eligible, Walruff, so get a couple of volunteer Chief Radiomen and put your radio gear on board. Good luck to you, and be sure to let me know the names of all passengers so that I can notify their relatives if anything happens to the *Lanikai*." With these cheerful parting words, he boarded a PT and shoved off for Corregidor.

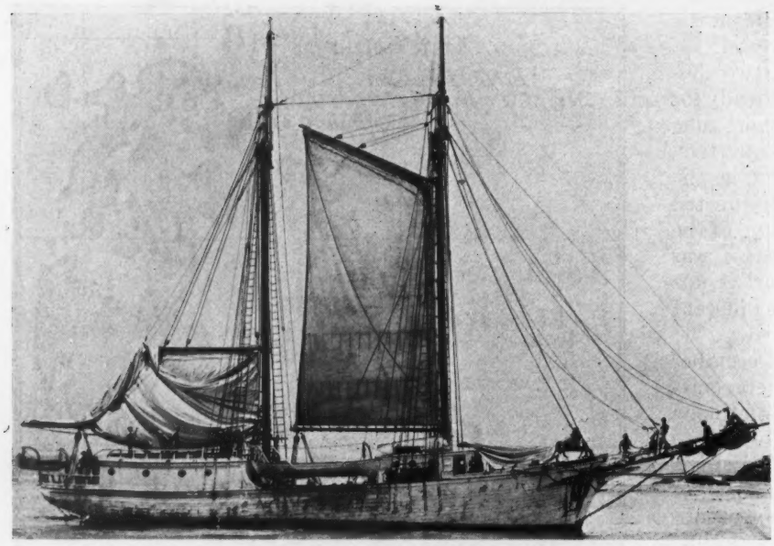
Upon hearing that I was looking for two radiomen for *Lanikai*, C. T. McVey and J. W. LeCompte, Chief Radiomen who had been my main support during the trying weeks we had just spent in Manila, indicated that they were willing to go along. McVey declared: "Well, Sir, we both think it's a screwy idea but it's better than hanging around here trying to act like soldiers. Besides, you're still the boss. Let's go!" The three of us then reported on board *Lanikai* with our equipment.



Commander John Bridgett, a naval aviator without airplanes, had formed a battalion of sailors to fight with the Army. His headquarters was in what used to be the Quarantine Station at Mariveles. In the grounds of this station, he had mounted several .50-caliber machine guns saved from destroyed airplanes. Our skipper felt that *Lanikai* was all set for her departure, except for one of those guns to add to our anti-aircraft defenses. He knew it would be useless to ask for one, since they were so highly prized and so scarce.

But this was just another opportunity for an American sailor to prove that he can rise to any occasion. Merle Picking, CGM, took the matter into his own hands. With a seaman to help him, our resourceful gunner walked over to the nearest of the machine gun mounts where several of Bridgett's officers were standing. As Picking disconsolately approached the group, he was grumbling and swearing to himself. Throwing down his tools in a disgusted manner, he said: "Damn it to hell! I wish they'd make up their minds where they want this blasted gun installed. I'm getting damn well fed up with moving it in this hot sun." Then, continuing to mumble and growl under his breath in the best old Navy style, Merle calmly went about the job of dismounting the weapon. Gathering up the ammunition lying about and with the native seaman helping him, he nonchalantly carried the complete assembly around the corner of the pier and aboard *Lanikai*. No one paid any attention to the operation.

Due to the danger of vital information falling into enemy hands, we were not permitted to carry any codes or ciphers



The schooner "Lanikai" had a brief career in motion pictures before she became a U. S. man-o'-war

aboard *Lanikai*. This meant that we would be completely out of radio communication for the entire trip. They gave us passwords to exchange with the picket boats, and a list of courses to be steered in clearing the mine fields. Since this information all came from the authorities at Corregidor, we assumed that everyone concerned at that fort had been advised of our departure. To be well out into the channel when darkness began to settle, we were scheduled to sail at 7:30 that evening. No one was optimistic about the success of our venture.

With all hands busy slapping green camouflage paint over everything, we began picking our way through the channel. The Jap bombers chose this time to make a heavy raid on Corregidor and Mariveles. With heavy bombs dropping on all sides, *Lanikai* chugged out of the beleaguered port.

Just as we reached the entrance to the mine field, a terrific explosion rocked our little ship. At first, we thought we had struck one of the mines. But, instead, it was a large tanker unloading Diesel oil and gasoline into barges. Two direct hits had turned her into a solid sheet of fire. The heat was so intense we could feel it across a quarter-mile of water. With the flames from that ill-fated tanker lighting our way, we pushed on toward the sea.

Now that we were finally under way, we began to feel a sense of elation at being at sea. Then a blinding flash of light caught us and held on. Someone on Corregidor did not "get the word" and had opened up on us with one of their giant searchlights. With this light pointing us out plainly to any enemy who might be lurking outside the mine fields, there was nothing for us to do but drag along at our full speed of six knots, cursing the light and hoping for the best. It took us 45 minutes to reach the open sea, and the light held on relentlessly during this entire time.

After the searchlight finally released us and our eyes became adjusted to the darkness, we discovered why the Japs had not molested us as we came out. We could plainly see them making landings on Fortune Island, a few miles below Corregidor. Evidently the enemy patrols were so preoccupied with this activity that they had not noticed us. This island later became a prison camp for the valiant defenders of Corregidor.

Probably no U. S. man-o'-war starting on a cruise, ever made a stranger entry in the ship's log than that registered by our skipper as we pulled away from Bataan. The first notation read: "This vessel got under way at 1940 (7:40 p.m.) out of Mariveles Harbor, Luzon. *Destination unknown.*"

Without communication with our own forces, and with no definite destination, we had to rely upon the broadcasts from Tokyo and from London to learn what was going on ahead of us. By splitting the difference between their claims, and cutting in on news from Batavia, we managed to avoid the more dangerous areas. Each evening we would go into a huddle over the charts and pick a lively looking spot which could be reached before daybreak. Thus, by sailing from point to point during darkness, and always heading southward, we hoped to work our way out of reach of the Japs.

The first test of our camouflage was not long in coming. We had reached the west coast of Mindoro the morning after leaving Corregidor. Being unable to find a harbor or inlet of any kind, we had anchored as close to the beach as possible, hoping that the messy green paint, now spread over everything, would blend into the jungle-covered hills which rose sharply from the water's edge. Suddenly the lookout shouted: "Airplanes on the starboard bow!" All hands rushed to battle stations. Unlimbering our machine guns, we stood by, expecting to see one of the low-flying planes, now only about two miles away, come screaming down. But they did nothing except fly right on by. This was heartening.

When it came time to divide the deck watches between the five officers on board, we discovered that one of our company, although a naval officer, had never been on sea duty. This was Lieutenant Paul Nygh of the Royal Netherlands Navy. Paul had been on duty in Manila as an intelligence officer but most of his past military duties had been as a cavalry officer in South Africa. Despite his lack of nautical experience, we were glad to have him, for he was good company and spoke Dutch.

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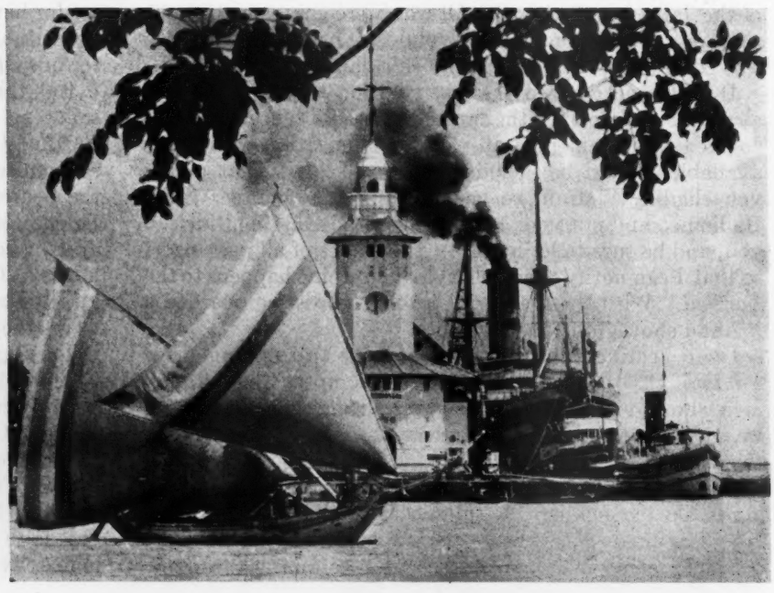


One corner of the harbor of Soerabaja, the Dutch naval base on the island of Java. March of Time photo

THE VOYAGE OF THE "TONQUIN"

Part III—The Final Mysterious Disaster

By MARGARET WALLACE

WHAT became of the *Tonquin* after she sailed from the Columbia River bound for Vancouver Island is a matter of hearsay rather than, strictly speaking, of history. It was several months before it dawned on the fur traders at Astoria that anything at all might have happened to her. They were busy building the new fort and had matters of more immediate concern to worry about — as, for instance, what had happened to Wilson Price Hunt and his overland party which was supposed to arrive long before this?

There was little reason to fear for the safety of the *Tonquin*. Her master, Captain Jonathan Thorn, was a sailor of unquestioned skill and a redoubtable naval hero to boot. While he was unaccustomed to dealing with Indians, he had been strictly enjoined in his written instructions from Mr. Astor to use caution when trading with them, to put up boarding nets when he lay at anchor off their villages, and never on any account to let more than a few at a time come aboard the ship. If this were not enough, Thorn had with him Alexander McKay, the most experienced Indian trader of that whole group of hard-headed Nor'westers taken into partnership by Astor, a man invariably liked by the Indians and one who knew the coast tribes already from his travels with Mackenzie.

The *Tonquin* had sailed from the Columbia on June 5th, 1811. Two months went by before the white men caught the first tentative rumor of a story undoubtedly familiar to every papoose between Cape Flattery and the Klamath River. A friendly Chinook called Calpo told Duncan McDougall, the leader of the Astorians, that it was being said among the Indians that the *Tonquin* had been destroyed by Indians along the coast. About the same time, an exploring party from Astoria, pushing up the Columbia into the Okanogan country, fell in with a group of Indians returning, as they said, from the Great Salt Lake. While on the Pacific coast, these Indians had heard of a spectacular mishap befalling a large ship which had many white men aboard her.

The language of this communication was limited and much of it in pantomime. According to Alexander Ross, one of the diary-keeping clerks who went along on the Okanogan jaunt, the Indians made excited and graphic gestures, "threw up their arms in the air, blew with the mouth, and made the wild grimace of despair."

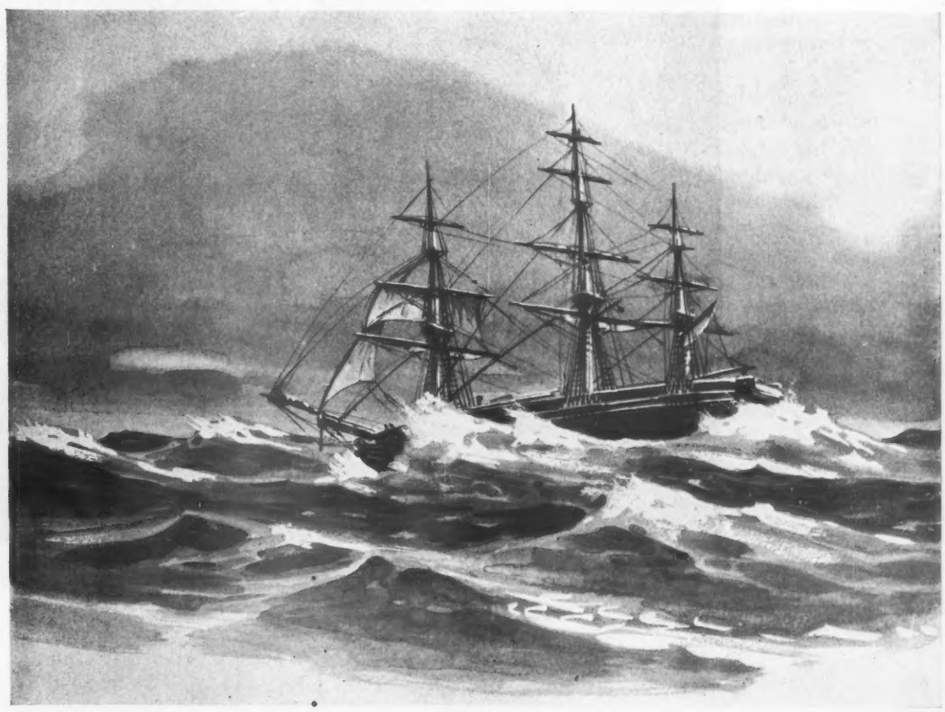
The white men decided, after a deal of conjecture among themselves, that there was probably nothing to the story. It was filed along with Calpo's tip until another two months had gone by. Early in October, when the *Tonquin's* return call at Astoria was long overdue, McDougall outfitted three Chinooks and started them off up the coast to the place where the *Tonquin* was reported lost. They had not gone far when they met a strange Indian on his way to Astoria with news of the ship, so they turned around and accompanied him back to the fort. It was then about October 20th.

The strange Indian was a glib rascal who called himself Kasiascall but answered to several other names as well. The Indians around these parts, he said, knew him as Lamazu — probably a corruption of a name bestowed on him by French traders. White men generally called him Jack. Kasiascall was his real name, however, and he belonged to the Wick-a-nook tribe on Vancouver Island. He boasted of having some French and English and, a much more remarkable accomplishment, understanding most of the Indian tongues spoken along the coast. The story he told was detailed and circumstantial, though perhaps not entirely ingenuous.

He had joined the *Tonquin* as interpreter when the ship touched briefly at Woody Point. Off Vancouver Island they ran into a gale and were driven to sea. It was three days before they got back again and dropped anchor on the morning of the fourth day in Nootka Sound near the village of Newity. This was on the west coast, in latitude 49° 50′.

A number of Indians came out in canoes to trade but the offers were too low and they carried their furs home again. Next day they came again and inquired the prices of various trade goods. Also they asked for presents, which Captain Thorn curtly refused. The chiefs left the ship, displeased by what they called stingy conduct. It was customary for traders to start things off with a few gaudy and inexpensive gifts. That evening Alexander McKay and Kasiascall went ashore and were well received in the lodges of Newity. They saw a great number of the coveted sea otter skins and spent the evening in talk with the chiefs, returning to the ship to sleep.

Next day, so many canoes put out from the village that Thorn ordered the boarding nets up and would allow no more than ten Indians on deck at a time. Trading was about to begin when Thorn caught one of the Indians in a stealthy attempt to cut the netting and wriggle aboard. The fellow escaped by jumping into one of the canoes alongside and



Off Vancouver Island the "Tonquin" met a gale and was blown out to sea. It was three days before she got back again and anchored

paddling off. Turning to the chiefs, Thorn demanded that he be caught and brought back for punishment. When this was translated, the chiefs contented themselves with smiling and saying nothing, which seemed to irritate Thorn greatly. He laid hands on two of the chiefs and threatened "to hang them up" unless the offender were produced. The other Indians, when they saw violence offered to their chiefs, fled in apparent consternation. Thorn kept the chiefs aboard under guard that night. They were offered food, but refused to eat or drink.

Next morning, the Indian who had tried to cut the netting was brought to the ship and given up. The captain ordered him stripped and tied up but did not flog him. Afterward he was released along with the chiefs, who left the ship in haughty silence, refusing presents which were offered. The rest of that day and the next, no Indians came out to trade, but on the afternoon of the second day a messenger came to invite McKay and Kasiascall to visit the lodge of an old chief. They were received with every mark of cordiality and urged to spend the night ashore. The Indians wished to know if the captain was still angry. Being assured that he was not, they promised to go and trade next day. McKay returned aboard but Kasiascall stayed and slept in the lodge.

Here Kasiascall volunteered his opinion that the plot to take the ship had been agreed upon already. He believed that the attempt to detain Alexander McKay had been made in the hope of sparing his life, for the Indians excepted him from the general resentment aroused by the arrogance of Captain Thorn.

\+ + +

However that may be, McKay went back to the *Tonquin* in an uneasy state of mind. All the smiling hospitality, the un-Indianlike change of front, meant to him that real trouble was brewing. Apparently he did his best to warn the captain.

When Kasiascall came aboard in the morning, he found McKay and Thorn having words about it, the Scot unusually excited and Thorn in a mood of scornful self-confidence. All this pampering of savages and haggling with them was so much nonsense to the captain's way of thinking. A firm hand and a one-price policy, take it or leave it, that was the way to bring them around.

"You pretend to know a great deal about the Indian character," he twitted McKay. "You know nothing at all."

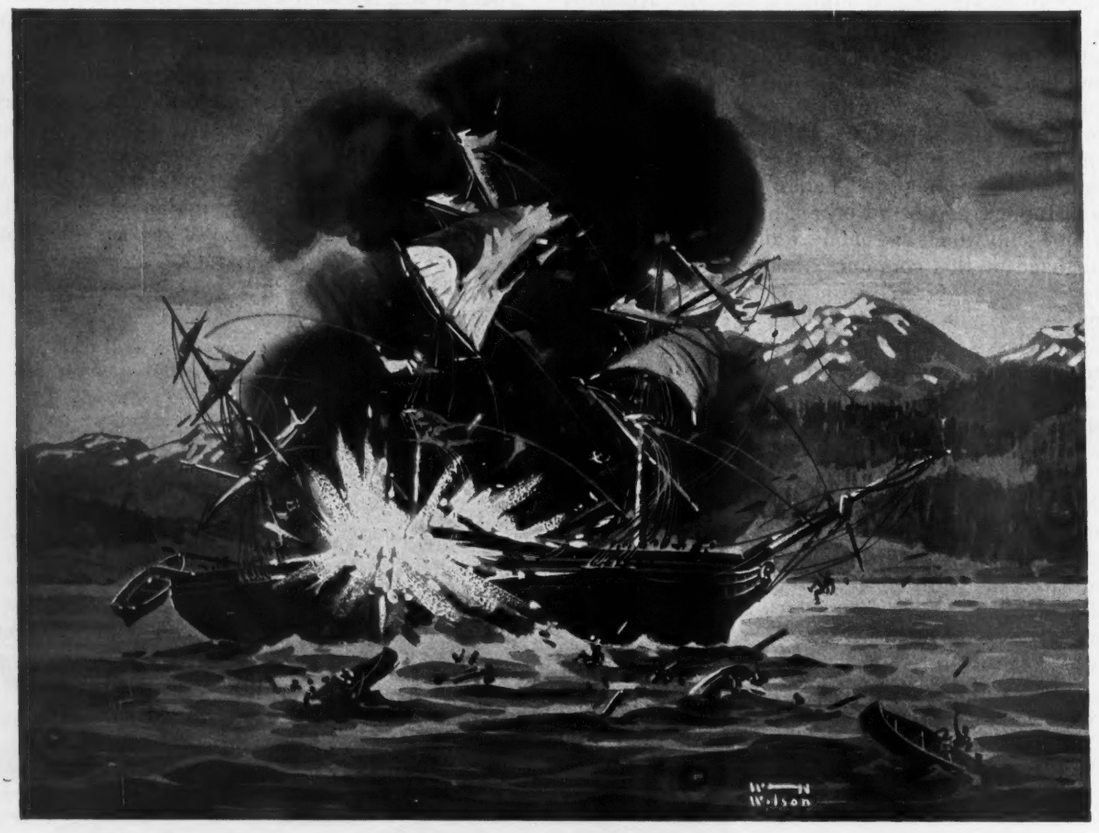
He turned to Kasiascall and asked if the Indians meant to trade that day and whether the chiefs were in good humor yet. The interpreter said they did and that he had never seen the chiefs in better humor.

"I humbled the fellows a little," Thorn said, pleased. "They will not be so saucy now and we'll get on much better."

McKay refused to go below to breakfast with the captain. He put two pairs of pistols in his pockets and sat down in gloomy silence on the port side of the quarterdeck. Shortly afterward, canoes, with both men and women at the paddles, began to flock around the ship.

The presence of the women seems to have disarmed Thorn. Even Kasiascall says he thought there would be no trouble when he saw them. At any rate, the boarding nets were not rigged. Trade went briskly and at the captain's prices. The Indians continually asked for knives in trade, but they opened bundles of the richest pelts and spread them out on deck. When a deal was concluded, they tossed the trade goods down to the women in the waiting canoes. One of the sailors, watching the scene from aloft, noticed that the knives were not going overside with the other goods. They were being concealed under the short fur mantles worn by most of the Indians. He appeared on deck to call this to the captain's attention just as Kasiascall reported it.

(Continued on page 84)



The ship's decks were swarming with triumphant, blood-smeared Indians — and the next moment she had vanished

From a painting by Charles Rosner

The ship cleared the berg with her rigging damaged, a boat smashed and a list to port owing to shifting of the cargo

"ICE DEAD AHEAD!"

The Ship "Loch Etive" Tries Conclusions With a Berg

By THOMAS YATES-SMITH

THERE is a big difference between viewing an iceberg from the deck of a liner at sea in the brilliant sunshine of a clear crisp morning and crashing into one in the pitch blackness of a dirty winter's night. In the first instance, provided that the commander of the liner is a sport, he might ease his ship a point or two off her course to enable the passengers to get a close-up view of the berg. They would then see the beautiful picture of a mass of prismatic colored ice surrounded at its base by innumerable rainbows caused by the sea breaking into spray in the berg's austere blue caverns and miniature promontories. A lovely and awe-inspiring sight. I've seen a berg under these pleasant conditions, and I've also seen one from the deck of a sailing ship which crashed into it while running her easting down between Melbourne and Cape Horn in the blackness of a dirty winter's night; and, believe me, there was nothing romantic or beautiful about that experience. It was "too close to the knuckle" for my peace of mind.

I was on the homeward bound voyage from Melbourne to London in the full rigged ship *Loch Etive* of 1200 tons. She was one of the Loch Line fleet of ships trading between Glasgow and Australian ports. We sailed from Melbourne on April 3rd, 1897, with a cargo of wool and hides. For several weeks after leaving port, the weather had been absolutely foul and the sailing qualities of the ship were put to a severe test. Continuous head winds, not unusual at that time of the year, baffled us. The crew were perpetually hauling in and slacking away the braces as the ship headed to the north and then to the south searching for a fair wind. To add to our troubles, the crew were becoming fed up and bad tempered. Nevertheless, we made progress and were soon half way across the Southern Pacific Ocean.

On the morning of April 28th, we were in latitude 55° 3′ south and 125° 10′ west. The day broke through a driving snowstorm, the ship laboring heavily in a rising head sea. We were sailing "full and by" under lower storm canvas. Knowing his ship was in the region of drift ice, the Skipper gave orders that the temperature of the sea water should be taken every two hours. Nothing unusual happened through the day and, as it began to get dark, the wind freshened.

At eight bells in the mid watch, all hands were ordered aloft to shorten sail. Clad in everything I possessed under my oilskins, I made my way to the foremast starboard ratlines and clambered up and out on to the fore upper topsail yard where I was hanging on to the bunt of the sail, my hands numb with cold. Suddenly one of the crew, who was out on the yard with me, let out a yell: "Ice dead ahead!" I peered through the murk and saw a sort of luminous haze with pinnacles of ice rising above it. That was enough for me. Leaping for a backstay, I slid to the deck in record time, ripping the skin off my hands in the process. A minute later, the ship struck the iceberg a glancing blow, bringing chunks of ice crashing down on to the main deck. Looking aloft, I could see the pinnacles of the berg showing above the fore truck.

Fortunately, the Skipper was on the poop when he heard the alarm. He jumped to the wheel and put the helm hard over and the ship paid off before she struck. Had he not done so, she would have hit the berg head on and gone down like a stone since she was forging ahead at considerable speed. As she lay grinding her hull alongside the berg, her yard arms brought down showers of ice on the deck. The jagged pinnacles caught some of the starboard rigging and carried it away. She seemed to bump several times with the rise and fall of the heavy sea, which, by that time, was on her starboard quarter. To all appearances, it seemed that she had hit a submerged ledge connecting the main berg with a smaller one which showed a few feet above the port rail. There she lay bumping until a following sea lifted her over the ledge and she plunged into deep water on the other side.

This all happened in less than half an hour though it seemed an eternity. I was scared stiff. The noise of the

(Continued on page 86)

PRACTICE MAKES PERFECT

Students at the USN Midshipmen's School, Columbia University, get first hand experience during cruises in a flotilla of converted yachts

Each day numerous converted yachts, known as "YPs," take different groups of Columbia midshipmen on one-day cruises at which time they receive practical instruction from the officers of the ships, as well as an officer member of the school's teaching staff. Each student section is divided into groups of threes, and a schedule is followed whereby each student receives practice at stations aboard ship

Upper left, the anchor ball is lowered and the ensign is raised as the ship gets under way. Upper right, "YP 559" is permanently attached to the U. S. Naval Reserve Midshipmen's School, New York, for training purposes. Center right, taking bearings with a pelorus. Lower right, plotting their first course. Lower left, practice with a 20 mm. anti-aircraft gun. Official U. S. Navy Photos

A NEW LIGHT ON AN OLD DESIGN

A Modified Dutch Tjalk for Use as a Life Boat

By T. C. GILMER
Lt. Comdr., USN

A typical Dutch tjalk

FOR CENTURIES the Dutch have found the greater part of existence in their maritime life. It is quite natural that they have developed distinctive traditions. Coupled with the fact that their internal life is so closely allied with the sea, their water craft have become unique in design.

There are many types of sailing craft in the Netherlands and, from our western viewpoint, none of them can be called conventional. They are in no way unconventional or unorthodox to the Dutch, however. They are just good, sound sailing craft that to a Hollander represent his homeland as much as a windmill or a field of tulips. They serve his purpose well and, because this purpose or employment is found only in Holland, the types of craft are thereby localized. It is of added interest, then, that only recently other maritime conditions have assumed a pattern that provides a possible outlet for one of the oldest of Dutch designs.

On the canals of Holland, as on other canals, the most convenient sort of craft is one that will carry the greatest amount of goods, compatible with the size and construction of the canal. The Dutch canals, interlacing and interwoven with the sea as they are, create another requirement. The craft must be also capable of sailing in open water.

Perhaps the stoutest, roundest and most ancient of all of these craft is the *tjalk*. Her design has descended almost unchanged for two centuries. Patterned similarly to the *hoekers* and *buses* of the eighteenth and early nineteenth centuries, the present day *tjalk* is something more than a mere canal barge. Her most surprising feature is the ability to sail. Accustomed only to our deeper, sharper designs for ocean cruising, we can at first only wonder that she sails at all. A bit of reflection will clear this point. Basically, she would not exist if she could not sail. She does go to windward in restricted waters and beyond that she is not slow or unwieldy. To return to her fundamental nature; she is, first, because of her extremely full ends, of great capacity. Secondly, she is strong and seaworthy.

These simple features or requirements were the basis of the adaptation to the current design. Subject only to slight modifications, an original type of lifeboat has been designed and a considerable number built for the purpose of providing greater safety and comfort under wartime exigencies.

Beyond the first rudimentary requirements (greater capacity and sailing possibilities), the design has been adapted to *moulded plywood* construction throughout. The original Dutch design, while extremely rounded and full in the ends, was not quite identical bow and stern. The after sections of the garboards were slightly hollow. The present lifeboat design provides identical ends. This, while having little effect on the quality of the design, makes it possible to use the same mould for both ends.

The midship portion is long and straight with uniform sections. Thus in construction the hull is moulded in three parts, using two moulds. These three parts are joined after moulding by butt straps or laminated battens. A groove is cut, into which splines are snugly fitted inside the hull, all being secured by waterproof glue.

The remainder of the construction is simple, using the most common sense form of construction for the type. Keel, stem and sternpost are each made in one piece, of some nineteen laminations bonded together making the strength member $3\frac{1}{2}''$ by $6''$. The gunwale is laminated similarly and topped by a hardwood cap.

Inside, there are the proper watertight compartments and the usual thwarts. An interesting feature here is the allowance for small platform bunks under the thwarts. There is sufficient stowage for canned goods, water and other approved lifeboat gear. The sailing rig is a lug mainsail with a jib. The sail area is, of course, kept down and is thus unlike the more lofty Dutch rig. Leeboards were originally provided but the dagger board was found more practicable.

(Continued on page 94)

A modern modification of the Dutch tjalk, built for use as a lifeboat

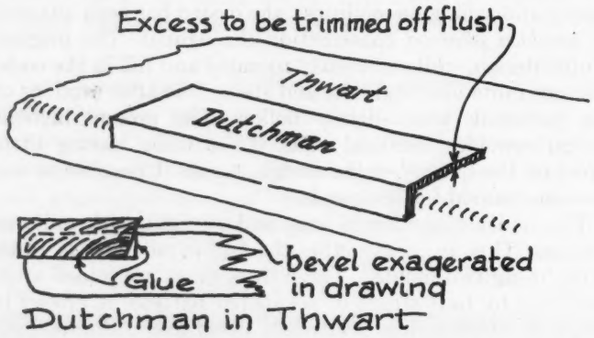
DAMSEL IN DISTRESS

Or How a Thoroughbred Sailing Dinghy Was Rescued from Misfortune

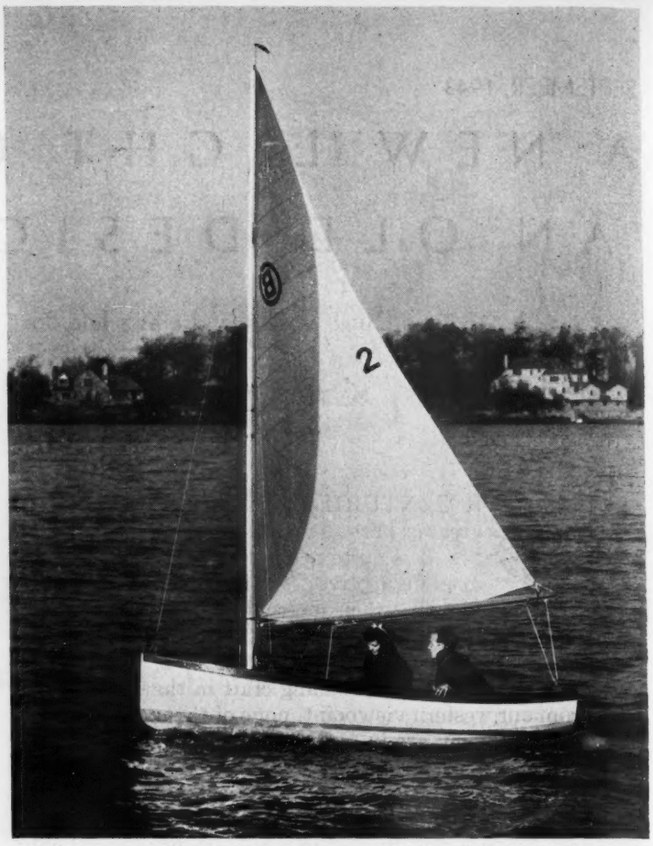
By W. H. de FONTAINE

IT MUST BE the Ivanhoe influence I guess for, having read Sir Walter's classic in my youth, I have spent my more mature years intrigued by the idea of saving maidens in distress. This lofty purpose carries over also in my approach to boats. Anyone with a fat checkbook can walk into a yacht broker's office, lay his pelf on the table and walk out with a flashing new yacht, complete in every detail. Such a one will, however, never know the pure joy and satisfaction that comes to the man who, through the exercise of his vision and his ingenuity, takes over the rehabilitation of a rundown thoroughbred. It has been my good fortune to have done just this in a number of cases over the years and the experience has been rewarding not only spiritually but also financially.

Perhaps a description of my latest foray into the fields of knight errantry may be helpful to others whose tastes run in the same direction. It was in the dog days of the summer of 1942 that I threw myself back in my office chair, clasped my hands behind my head, put my feet on the desk and asked myself what made me feel that way. I had not been staring at the ceiling very long before the answer came: "You've been too long on the beach." A little further reflection on the state of the nation and of my personal finances brought me to the conclusion that any boat I bought would have to be a tiny one. Remembering the many happy hours I



had spent in sailing dinghies, both racing and just knocking about, it was natural that I should reach for my 'phone and tell Jim Sparkman what was on my mind. Yes, he had just what I was looking for; she had just been listed with him and was apparently a bargain. Followed correspondence and telephone calls to her owner and the following week-end found me towing my new possession home astern of a friend's auxiliary. Poor little thing, she looked so woebegone when I first saw her swinging to a mooring, half full of water and bespattered with mud, that she touched my heart. An inspection, as careful as possible under the circumstances, revealed no serious structural faults so, in almost no time at all, she was mine. In spite of her dejected circumstances — due largely, no doubt, to the fact that her owner had become so involved with war work that he had no time for her care — she managed to convey to my critical gaze the definite impression that, under it all, she was a lady. And why not? Her designer was Nick Potter and her birthplace



"Confusion," one of the Class B One-Design Dinghies. She is sailed by Frank Campbell

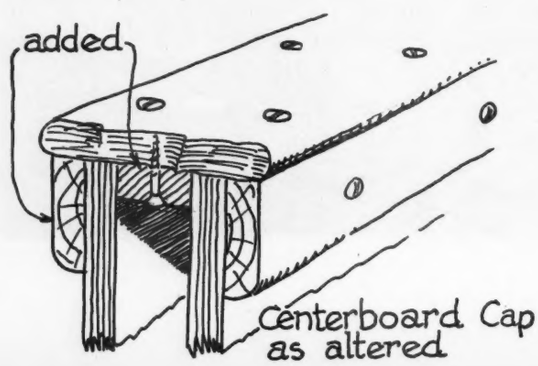
the small boat shop at Herreshoff's; could any boat have a finer heritage? In her palmy days, she had been an active member of the One-Design Class B Dinghies, perhaps the fastest little boats for their inches afloat.

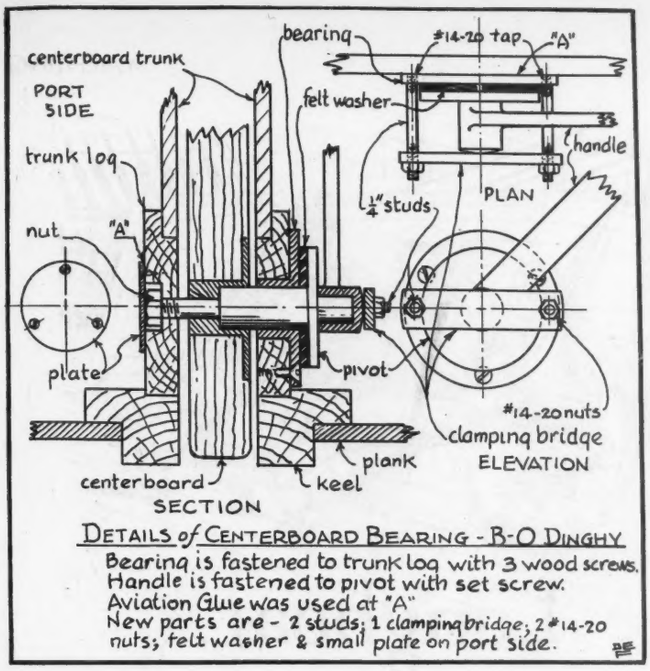
Like all Herreshoff boats, she is distinctly on the light side, such fragile construction being possible because only the finest materials were used in her building: good white oak, Honduras mahogany, clear cedar, and fastenings of copper and bronze. It was for this reason that I was encouraged to go ahead with her rehabilitation.

The first step was to get her home where I could work during odd moments and week-ends, without benefit of transportation. My friend Al Scofield who, with his care and attention to my boats, has aided and abetted my sailing for many years, brought her home in his truck and deposited her on a pair of horses outside the door of my shop. I think she smiled at me when I patted her scarred topsides and told her she was going to be overhauled from stem to stern.

First in order of procedure, when preparing to give a boat a thorough overhauling, is to remove everything from her that will come off. As I remarked to a friend: "I took everything out of her but her rivets."

Thwarts and the cap of the centerboard trunk, which showed the scars of hard use, were much easier to bring back to normal with a plane on the work bench than they would be in the boat. It was necessary to fit a "dutchman" into the center thwart, where a fore-and-aft seat had been let into it. This had been removed, leaving an unsightly





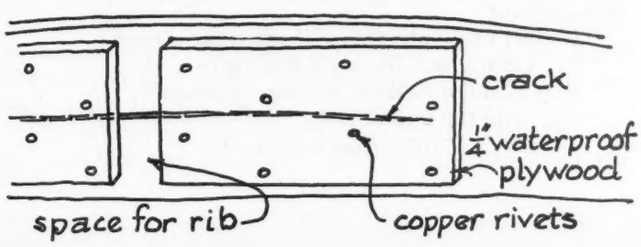
DETAILS of CENTERBOARD BEARING - B-O DINGHY

Bearing is fastened to trunk log with 3 wood screws. Handle is fastened to pivot with set screw. Aviation Glue was used at "A" New parts are - 2 studs; 1 clamping bridge; 2 #14-20 nuts; felt washer & small plate on port side.

scar. A piece of mahogany which I had on hand was fitted carefully into the thwart, after a recess had been prepared to receive it, and securely glued with Weldwood glue. This filler piece, or "dutchman," was allowed to protrude above the surface of the thwart about $\frac{1}{16}''$ to allow for planing off flush after the glue had set. The whole surface of the thwart was then planed down until all scars were removed, next it was sanded, using 2/0 garnet paper, and taking care to rub only with the grain of the wood. The next step was to apply a coat of Devoe & Reynolds paste wood filler, mixed with enough duPont mahogany color deck paint to obtain the desired shade. The filler is first thinned with "turps" to the consistency of thick cream, the color is then added and the mixture is applied at once to the wood with a stiff brush. Before it has set hard, wipe off all the excess with a piece of burlap, a handful of excelsior or an old rag. Allow it to dry overnight and sand again, lightly. Wipe the surface carefully with a rag dampened slightly with turpentine to remove all remains of dust. Now the surface is ready for the first coat of varnish. This is flowed on with a clean brush, care being taken to spread it evenly and that no drips appear at the edges. It is best to allow the work to dry in a horizontal position to avoid the varnish running. Four coats of varnish were given, with a light rubbing with fine sandpaper between each. The thwart was now ready to be reassembled in the boat and was put aside until other work on her interior was finished.

The forward thwart, which forms the mast partner, is also of mahogany and is reinforced on either side of the mast by $\frac{1}{4}''$ brass rods running fore-and-aft and riveted over burrs. This thwart is partly cut away on its outboard ends for lightness and had split across one of the narrow surfaces. With a back saw, I opened up this split until an even groove was formed, about $\frac{1}{16}''$ wide by $\frac{1}{8}''$ deep. Into this groove I fitted a strip of mahogany set in Weldwood glue and permitted it to protrude slightly above the surface, as in the previous case. When this had set, the thwart was given the same treatment as described above.

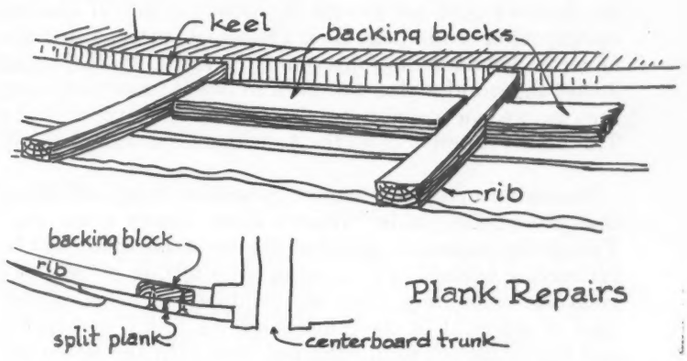
The cap of the centerboard trunk, which was not the original one made at Bristol, had been simply screwed down



Floorboard Repairs

to the $\frac{3}{8}''$ sides of the trunk with long brass screws, a coat of white lead having first been applied to seal the joint. Some of the screws had gone in true and some were protruding. To cure this situation, I screwed and glued along both sides of the trunk at its upper edge, strips of mahogany $1\frac{1}{4}''$ wide and $\frac{3}{8}''$ thick, thus increasing the top surface of each side to $\frac{3}{4}''$; the holding down screws now had something to bite into. To the under side of the trunk cap I screwed a piece of $\frac{1}{2}''$ mahogany that had been carefully fitted to fill the opening in the trunk; thus, when the cap was finally assembled with the trunk, the latter had lateral support at its upper end, greatly strengthening the whole structure. The cap was finished in the same manner as the thwarts.

The centerboard in these dinks is pivoted on one of those fittings that operates with a lever. Unless they are carefully fitted and maintained, the point where the pivot passes through the trunk is a fertile source of leaks. It was definitely so in this case. A careful inspection revealed that several vital parts were missing, parts of bronze which could not be replaced for the duration. Here, surely, was an opportunity to do some of that Bale Wire Engineering that Tom McCahill wrote about in the July issue of YACHTING. The first part of the problem was to get the fitting out of the boat. The lever is to starboard and the only thing that was holding the pivot in tight contact with its packing washer and bearing was a hexagonal nut on the port side of the trunk, let in flush with the surface, so that it was impossible to get a wrench on it. This stumped me for a while but I finally licked it by drilling two shallow holes, about $\frac{1}{8}''$ deep, with a No. 30 drill in the top surface of the nut and on opposite sides of its axis. I then made a rough spanner by filing a piece of $\frac{1}{8}''$ by $\frac{3}{4}''$ cold rolled steel into such a form that its end had two small projections which engaged the holes in the nut. By holding this tight against the nut with one hand and turning it by a pair of pliers, it was possible to back off the nut and release the pivot. The centerboard was



Plank Repairs

now removed and the bearing on the starboard side of the trunk, which was held in place by three wood screws, was taken off. With these units in the shop, it was possible to set them up in the lathe and polish the surfaces, truing those that had been dented. Depending for tightness on compression exerted entirely upon a section of the centerboard trunk that had been bored out until it was only $\frac{3}{8}''$ thick, and upon a nut which remained stationary while the stud rotated through an arc of about 90 degrees, this fitting had naturally been a source of trouble. The problem was to get the pressure element on the same side as the lever and to relieve the pressure upon the port side of the trunk. The accompanying sketch illustrates how this was accomplished. A washer of felt about $\frac{3}{16}''$ thick was cut out (using a gouge for the hole) and fitted between the flanges of the bearing and the pivot. This has proved a satisfactory packing. Leather or rubber would also be suitable for this purpose.

(Continued on page 70)

Under the Lee of the Longboat.

by Spun Yarn

WITH ALL this silly political turmoil about whether fathers will be inducted into the armed services, I certainly got a kick out of a story in the papers concerning five Limey ancients who didn't wait to be drafted. The oldest of them, 68, was retired from the Royal Navy as an Admiral in 1936. He is now a Lieutenant in the Reserve, employed in the humble but essential task of ferrying new vessels across the Atlantic. In the next war, by which he ought to be at least 93, I hope they make him a leftenant commander. One of the others in the group is our old friend Conor O'Brien, who sailed his ketch *Saiorse* around the world but couldn't push her around St. Albans in the '27 Fastnet on account of head winds. He is a Sub-Lieutenant, also in the ferry service. It is the spirit animating men like these that makes the world a pleasant place to live in; and that being the case we can probably survive the death struggles of the Third Reich whether or no the American fathers are drafted.

Somewhat apropos of which, gloombirds keep telling me that the civilian public "doesn't know there's a war on." This strikes me as a mouthful of the one staple that won't be rationed — baloney. I've seen my wife totting up red coupons and estimating when the children can have another meal of red meat (if the butcher has it); and I've seen her and the neighbors complying not only with the letter but with the spirit of the ban on non-essential driving, and I've heard enough of losses and sacrifices to convince me that the country as a whole is acutely conscious of the war's existence. But I don't expect people to give up laughter or enjoyment as a mark of their awareness. Which would the calamity howlers prefer, I wonder, as a national trait of character: the heroic but almost casual behavior of the Britons under aerial bombardment, or the abject panic of the Teutons now that Germany is on the receiving end? The jerries know there's a war on, but I don't love them any better because they're showing it rather painfully.

Happening to be flying over Chesapeake Bay the other day, I persuaded the pilot to circle over Oxford, and so saw my little *Hotspur* for the first time in Godknowswhen. She's in the water, covered over, and although I'm not familiar with the bird's-eye view of my cutter there was no mistaking the shape of her or her somewhat disconsolate look. I saw few boats under sail but, in the glimpses of rivers from the Chester to the Magothy to the Patuxent to the Little Choptank, I was reminded poignantly that the bay and its tributaries comprise a cruising ground par excellence. They tell me, by the way, that the gasoline shortage is obliging owners of auxiliaries to forget their motors and maneuver solely under sail, so it's an ill war that blows nobody good.

If the Old Man allows the following quotation to appear, you'll know that it's good enough to overcome his objection to my being paid for copying the words of others. Writing about the U. S. cruiser *Swayback Maru* (alias *Salt Lake City*) in his book "Torpedo Junction," Robert J. Casey said: "I heard another story apropos of the fresh water crisis that occurred today. A sailor filled a bucket with water from the cold tap and carried it to the steam valve which in ships serves as a hot tap. (You run steam through the water to heat it.) The steam had gone down, creating a vacuum in the pipe, so when the lad turned the faucet the water was sucked up out of the bucket into the pipe. 'Doggone,' said the gob. 'They give it to you and they take it away! The scientific sons-of-b's.'"

We had a funny one at Dismal Spit a couple of weeks ago when Under Secretary of the Navy James Forrestal attempted to put through a call to the Commanding Officer of the Section Base. The C. O. wasn't at his desk, but his witty exec was, and the conversation ran something like this:

"This is the Under Secretary of the Navy."

"Good afternoon," said the exec, indulgently. "This is the American Store. What can we do for you?"

"But this *is* Mr. Forrestal," was the reply.

"Glug glug," said the exec, before passing out.

It files in the same pigeonhole with the story about the second looey in the Army who threw his weight into the telephone under the mistaken assumption that he was talking to a sergeant.

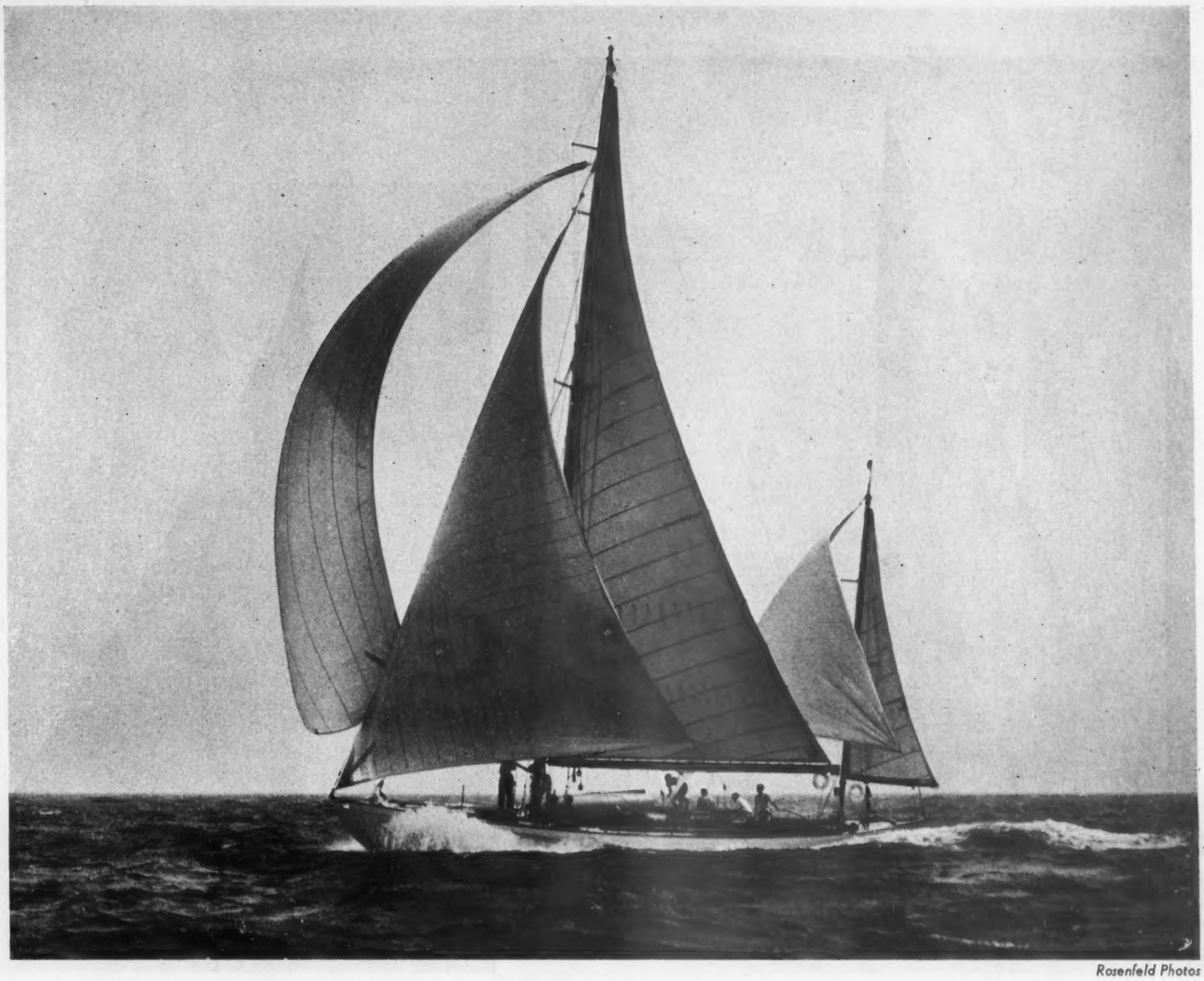
"Do you know who this is?" asked the stranger.

"No, I don't, and frankly I don't give a —"

"This is Major General William B. Jones."

"Oh," said the second looey, "do you know who *I* am?"

(Continued on page 74)



Rosenfeld Photos

"Stormy Weather," which made her debut in the Bermuda Race of 1934, was destined to become famous. She was Sparkman & Stephens' successor to "Dorade"

TWENTY YEARS OF YACHT DEVELOPMENT

Part IV — The Naval Architects Design to a New Rule

By HERBERT L. STONE

AFTER the successful Transatlantic Race of 1931, the longest event of that character promoted exclusively for small yachts, the influence of the sport on yacht design and construction became more apparent than ever. Hardly a cruising boat of moderate size was designed without consideration of the rule and the thought that she might some day be a potential contestant in an ocean race. The general characteristics of hull and rig which had been developed as best suited for offshore racing were finding their way into most of the new cruisers under 75 feet in length.

Practically all of the leading yacht designers were feeling the influence of the trend, and the biennial races to Bermuda and Honolulu were seeing increasing numbers of new yachts in every event. This was more apparent at first on our East Coast, because most of the building at that time was in the East and the racing fleet of the West Coast was then largely made up of boats built here and shipped West. The situation corrected itself to some extent during the next decade, when West Coast yachtsmen began turning to West Coast designers and builders for their yachts.

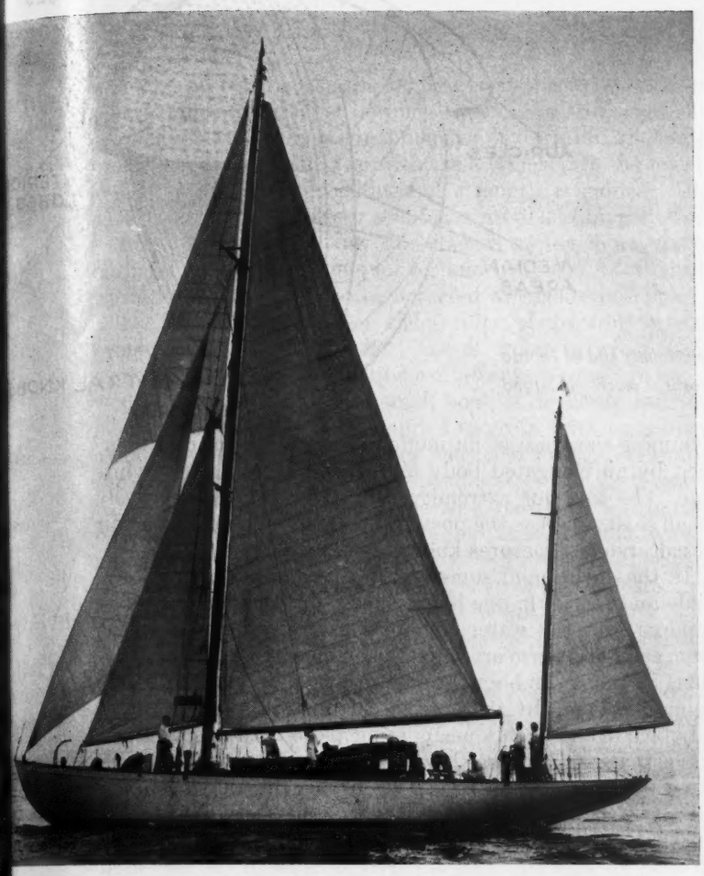
Out of twenty-seven starters in the Bermuda race of 1932, no less than ten were new since the previous Bermuda event, while eight more were new for the '30 race, making eighteen out of the twenty-seven that had been built for these events in less than three years. Whereas John Alden, W. H. Hand, Fred Lawley and Starling Burgess had carried the burden of development of the earlier fleets, practically all the eastern designers were now being represented at the starting line. In addition to John Alden, Belknap & Paine, Sparkman & Stephens, Phil Rhodes, Cox & Stevens, F. Jay Wells, C. D. Mower, and Francis Sweisguth, all were represented with one or more entries that year. This boded well for the future of ocean racing and the small offshore yacht.

That 1932 Bermuda race was a hard sailed affair, with strong winds that gave a close reach on the starboard tack all the way. Never had the course been sailed before in such fast time. *Highland Light* set a pace that will hardly be beaten by a boat of her size in this race, taking twenty-five minutes less than three days (71 hours, 35 minutes) to sail the 628 nautical miles. Just under nine knots she averaged from start to finish, and this for a boat only 50 feet on the water. The previous record had been made in 1909 when the schooner *Amorita* covered the course from Sandy Hook to St. David's in 78 hours, 19 minutes. The latter course is 45 miles longer

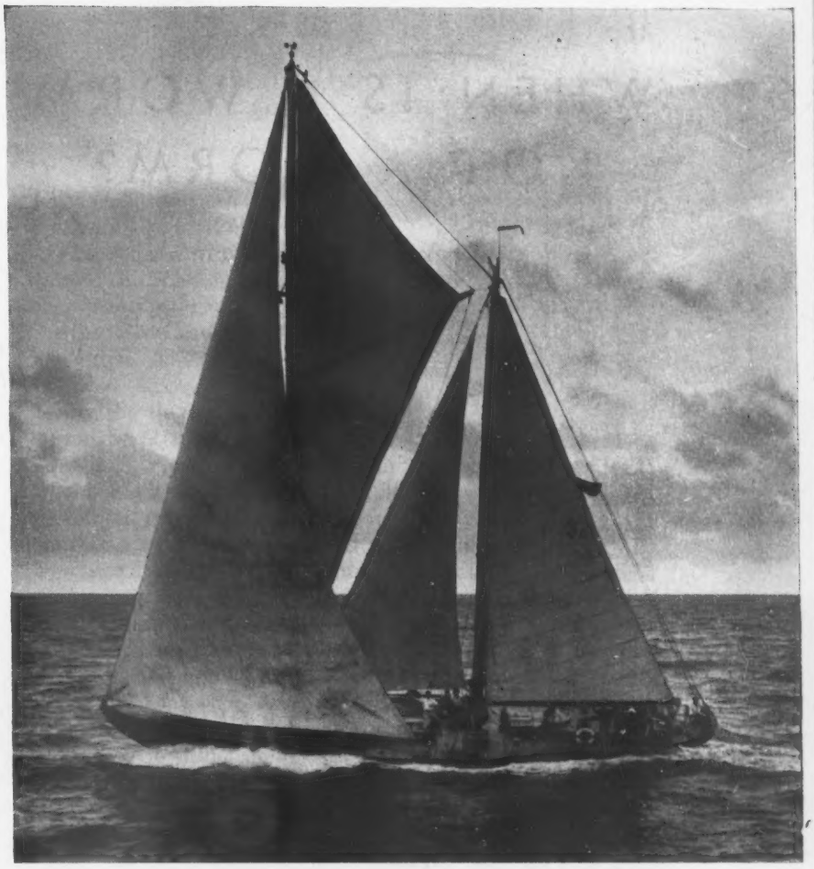
(Continued on following page and on 76)

"Namsang," a 66-foot ketch, was Frank Paine's successor to the same designer's successful "Highland Light." Below, the British cutter "Lexia," designed by F. Shepherd for ocean cruising

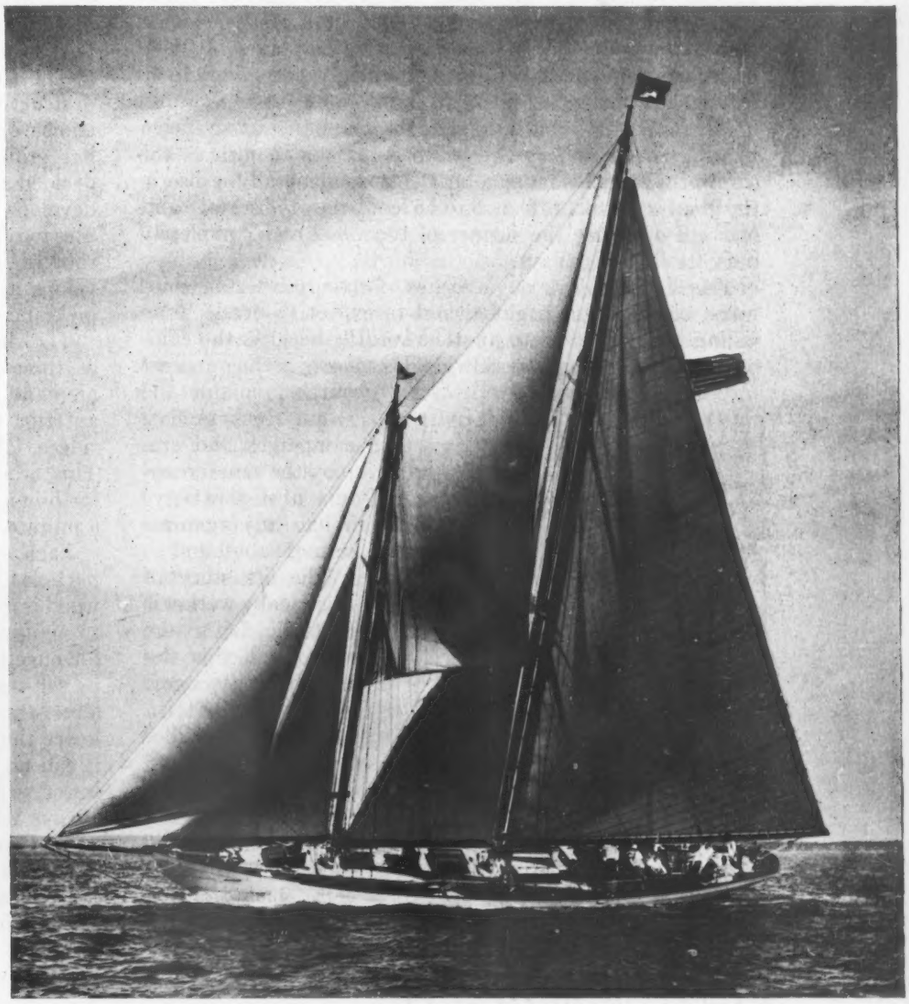
In the first "Edlu," Olin Stephens designed a boat to rate near the bottom of her class. She won the 1934 Bermuda Race. Below, the little "Jubilee," by C. D. Mower, was a wholesome, fast cutter



"Alsumar," a cruiser by Sparkman & Stephens, showed the influence of ocean racing development. Below, from the Great Lakes came "Baccarat," designed by Russell Pouliot, and a Bermuda prize winner in 1934



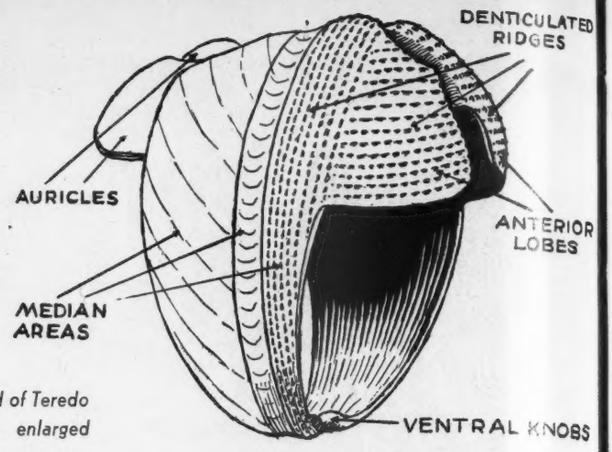
The most outstanding boat of 1934 was "Vamarie," by Cox & Stevens, with a wishbone staysail rig. She was usually first to finish. Below, "High Tide," John Alden's fast schooner, was on the narrow side



WHEN IS A WORM NOT A WORM?

Why, When It's a Shipworm!

By EDWIN D. GIBB

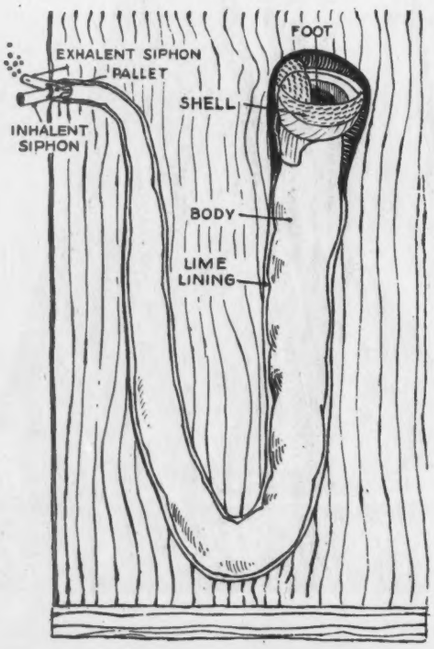


The business end of Teredo Navalis, much enlarged

EVERY wooden craft has waged battle with the shipworm since the dawn of history. The dugout canoe of primitive man was hauled out daily as a precautionary measure. It was a routine of the Greek slaves to apply hot asphaltum to the underwater hull of the galleys to combat the teredo. The Romans used lead as protection. In the sixteenth century, the vogue of exploration took gallant men far from their shores. There are many harrowing tales of the loss of these men at sea, their ships being gutted by shipworms.

Even today, despite our supposed scientific barriers to the success of the shipworm, the underbodies of countless wooden ships disintegrate because of this fiend of destruction. Furthermore, no wood used in ship construction is 100 per cent immune. The gluttons merely delay attacking such wood as teak and redwood because other types are more to their liking. The hardness of the wood more or less determines its order of choice. Also, the shipworm desires its wood pickled in sea water. A nice juicy plank, adequately pickled, of ordinary soft wood such as Douglas fir, might well be punctured by from 3 to 3000 invaders per square inch in a month. Few, however, penetrate appreciably deep under conditions more crowded than eight per square inch. In water of normal salinity and fairly tropical temperature, it will gnaw its way into wood at the rate of about an inch a month. This rate increases after the second month as the shipworm becomes more robust. Larvae generally cruise in the greatest numbers from 3 to 15 feet below the surface and one will puncture the surface of the wood and completely bury itself in four days.

This lowlife plays no favorites. Furthermore, the shipworm organization is global and to expect to evade it by sailing from one port to another is futile because the campaign of destruction is worldwide. Its cohorts in the remotest outposts conduct the same destructive campaigns and employ the same weapons and strategy. What an organization of saboteurs!



The arch saboteur in his burrow, ungratefully chewing away at the wood of the vessel which gives him lodging

The life story of this sneaky worker is fantastic. Let's take a look at this detestable passenger. The illustration shows the marauder assuming the guise of an inoffensive earthworm, characterized by an elongated body and generally of a dirty white hue. The anterior extremity is protected by a relatively small shell, whereas the posterior end has siphons and a pair of calcareous structures known as pallets.

In the spring and summer the shipworm, which is both male and female in one body, spews out eggs and sperm at random into the water; millions of free swimming larvae from each shipworm are thus started on a mission of destruction. Larvae swim about from two weeks to a month before being overtaken by the urge to get busy and start a life of sabotage. During this meandering period, they sometimes travel many miles from their birth spot. Close to the beach, the water is densely infested with larvae. In fact, a swimmer takes thousands into his mouth every time he takes a mouthful of sea water. They begin to thin out in number about 15 miles to seaward. This is partly because of the increased distance from the usual place of their birth near the shore line and particularly because of the increased exposure to being eaten by other sea life. In this connection, larvae, with plankton, form the principal foods for many types of marine animal life, such as the sulphur bottom and humpback whales, the sea anemones, the jelly fishes and others.

The tiny larva cruises about seeking wood to begin its destructive activity. It finds the yachtsman's boat usually choice operating grounds. By the time it invades her, it has grown to the size of a small grain of sand. Having decided that its general site of operations is acceptable, it develops a hatchet-like foot on the anterior end. This it uses in roaming the underwater wooded area in search of the spot of its choice. Having selected the exact spot, it develops a mouth and, above this, the special combination pick and chisel in the form of a shell. Now it goes to work.

The shell is the device that does the cutting. It consists of three general portions, the anterior lobe, the median area and the posterior or auricle. The anterior lobe and the anterior median portion both have rows of denticulated ridges. These are the teeth that actually gnaw the wood. This is accomplished by the shell being swung back and forth in a slow, rocking motion of about ten complete swings a minute.

Each swing of the shell grinds off one or more minute particles of wood. These the shipworm swallows. As the wood is ground away, the special gripping foot shifts its hold to maintain the cutting edges of the shell at the right spot for effective grinding. Deeper and deeper it advances into its self-made burrow, a prisoner for life — never to emerge alive. Its body adjusts its shape to conform to the tunnel, hence the worm-like form. As it advances into its dungeon, it can no longer obtain nourishment from the surrounding water so it develops two tubes or siphons. These siphons always remain at the original point of entrance. Through one it takes in microscopic food material from the sea water and through the other it exhales the waste materials of gnawed wood and sea substances. If danger threatens, it quickly draws these siphons into the burrow for protection.

Back and forth rocks the shell against the wood and the minute chips fly. Deeper becomes the burrow and, since the siphons remain at the original point of penetration, the body grows in length to keep up with the advance into the wood. With increase in size, additional strength is gained. The cutting shell grows huskier and bears more and bigger teeth — now hundreds of them. The shell is swung more vigorously and the burrow gets longer and beamier. Adult shipworms, hard at work, can be detected with a stethoscope.

The shipworm possesses the faculty of growing in size proportional to that of the piece of wood in which it is working. Thus, when a shipworm attacks a small piece of wood, such as a plank of a small boat, it develops dwarfed in size. Its colleagues that happen to go to work on a huge chunk of wood become comparatively ponderous. Naturally, the smaller borer turns out proportionately less destructive work. Neverthless, the small chiseler carries out the program of destruction with the same determination. In small yacht planking, the shipworm seldom exceeds five inches in length. The big ship and big timber workers grow to about an inch in diameter and five feet in length — yet the only visible external evidences of their presence are the tiny holes through which they originally entered.

The shipworm realizes that its promiscuous boring weakens its burrow and the tunnel is likely to crumble, so he reinforces it with a lining of lime. In many cases, it makes its tunnel so strong that it can withstand crushing by strong fingers. Although blind, the shipworm's uncanny ability to estimate the thickness of planking — and thus predetermine its own future size — ranks among nature's mysteries. Again, it respects the rights of its coworkers. Never do their tunnels cross or invade one another. The shipworm code requires that when it approaches the end or surface of a plank or piece of wood, it must, by twist or turn, change course or die in its tracks. Rather than violate this code, it dies in its tunnel tomb. Thus, shipworms will not pass through a bounding surface or the seam between two pieces of wood. Therefore, plywood with its multiple surfaces suffers practically no destruction. Likewise, the inner planking of a double-planked boat is inviolable to attack.

It might be of passing interest to know that, when about three months old, the Siamese type shipworm is particularly delectable food to man. In fact, it is similar to — and many proclaim that it surpasses — a fat, juicy and well contented oyster. There is no rationing of this delicacy.

Besides death on account of surface or end effect, the shipworm has in nature two other lethal enemies, fresh water and air. It begins to slacken its boring activities when the salinity is reduced to 15 parts in 1000, or about one-half the salinity of usual sea water; while 5 parts or less in 1000 parts of water are 100 per cent fatal within five days. In general, shipworms of one inch in length and smaller will be dead within two days when they are exposed to fresh water; those of two to three inches in three days, while a continual fresh water bath for five days will account for the death of all, regardless of size.

The Siamese shipworm is said to be delectable food for man. Some declare it better than an oyster

Polluted water is an arch enemy to shipworms and that is why they did not survive in the East River in the vicinity of New York City before the sewage clean-up drive. A drought in Northern California caused the Sacramento and San Joaquin rivers, emptying into San Francisco Bay, to shrink. This materially lessened the fresh water entering the Bay with a subsequent rise in salinity. This was the ideal setup for the borer with the result that it accomplished damage to wooden pier piling and wooden ships (1919-20) in excess of $25,000,000.

The presence of the live borer in a boat's planking may be detected by using a stethoscope

Temperature of the water really determines the extent of the worm's destructive activity. The colder the water, the less the shipworm accomplishes. Thus, in Boston it amounts to about two months out of the year while in the tropics the shipworm produces a full year's work. In other words, a timber which would last about 30 years in Newfoundland would be destroyed in a year in Panama.

In general, direct fresh air has the same effect as fresh water and the master chiseler when exposed directly will throw in the sponge within five days. However, it is equipped with two delicate doors, pallets, with which it can seal the original tiny opening so that air cannot easily enter its burrow. It then can live for many days, depending upon the moisture of the wood. Thus, the shipworm can be killed in time by hauling out the boat but a five-day sojourn in fresh water is sure death.

In addition to nature's fresh air and water cures, there are methods devised by man to combat the shipworm. Probably the most effective mechanical protection is a thin sheet of copper sheathing tacked securely to the entire underbody of the boat. This seals the bottom against shipworm invasion. The copper also exudes a copper salt that is to the shipworm what a stink bomb is to a human. A copper bottom, however, requires great care against splitting and tearing, such as usually occurs when the craft grounds or strikes a submerged object. Constant inspection to determine its intactness is necessary and, to top off, it is expensive. Usually it is not considered except for boats destined for service of years in tropical waters.

A rather uncommon but fairly effective method of controlling the ravages is to offer the shipworm a choice bit of material known as a "worm shoe." This shoe is one or two inches thick of soft, untreated wood, such as Douglas fir. It is nailed to the keel and, in the case of larger vessels, also to the garboards. The shoe is separated from the keel or hull by a layer of creosoted fabric. The keel and underwater hull are painted or treated, leaving the "worm shoe" directly exposed. The shipworm is thereby induced to concentrate on material of its liking, and thus the ravages are temporarily confined. The "worm shoe" is replaced every six months.

Before construction, the timbers to be used as keel, and the bottom planking up to the water line, can be pressure treated with creosote and complete protection for 20 years may be expected. High quality creosote must be used. This pressure should be such that creosote will be absorbed in pine at the rate of 20 pounds of creosote per cubic foot of wood, 14 pounds for Douglas fir. In a well ventilated boat, the strong odor of creosote will usually persist for about a

(Continued on page 100)

YACHT DESIGNING FOR THE AMATEUR

Part VI — The Weight Calculation

By CHARLES H. HALL

WHEN the construction and arrangement plans have been well worked out, the next step is the weight calculation. The weight of every part of the boat, her fittings, stores, spars and rigging, live weights, etc., must be found. And not only the weight but the position of the CG of each item. This is a tedious job but a necessary one for, unless you know the weight and CG of every single part, you'll be unable to get the weight and CG of the ballast keel and so insure that the boat will float at the designed water line and in the proper trim. Tables of weights of various materials may be found in any standard work on naval architecture, such as Skene's *Elements of Yacht Design*.

You can, of course, do your figuring on odd scraps of paper but it is better to do it in the calculation book, in a neat and orderly fashion so that you can refer to your work in five years or so and know what the figures mean. It is well to classify the different weights under several headings and each naval architect has his own system. My personal preference is for the system herewith for which I am indebted to P. L. Rhodes. In this, there are seven general classes: Hull, Deck, Deck Joinery, Interior Joinery, Interior Equipment, Equipment, Spars and Rig.

Under Hull come: Planking, frames, keel, stem, deadwood, horn timber, centerboard and trunk, floor timbers, shaft log, clamps and stringers, rudder, engine bed, knees, mast step, etc. In fact, all the members of the hull structure below the plankshear. Deck includes deck plank, deck beams, house and cockpit fore-and-afters, plankshear, partners, cockpit floor and beams, deck canvas (if any), lodging knees, etc. Deck Joinery covers rail, house sides, roof and beams, coaming, cockpit staving, canvas on house, slides and hatches, tiller, and the like. Interior Joinery takes in cabin floor and beams, bulkheads, seats and berths, galley joinery-

Hull Item & Material	Weight Wt.	L Arm	L Moment	V Arm	V Moment
268 × 7/16 × 32 Planking 268# 7/16" fir	626	+11.6	7262	2.8	1750
9/16 × 7/8 × 24/12 × 357 Frames, 1 1/8 × 1 1/2" oak, 357'	188	+11.6	2110	2.8	510
Keel (3 pcs) 2 1/2" oak, 25.3' × 10" Av.	237	+12.5	2960	1.8	426
Stem, oak, 6' × 3" × 3 1/2"	24	(-1.4)	(-34)	3.7	89
Deadwood, oak, 7 1/2" Av	364	+15.4	5606	1.2	437
Stern knee, 3" Lockmuntuck	4	+24.8	99	3.7	15
Transom, 1 1/8" Mahogany	19	+25.5	485	3.9	74
Trunk tops, oak 54					
Trunk sides, 6# 1 3/8" Y.P. 66					
Head top, oak, 4 1/2" × 3 1/2" 34					
Cap, mahogany, 3	331	+11.8	3906	2.2	727
Centerboard, oak, 1 1/2" 63					
Clips to floors 37					
Add lead, bolts, strap #2 70					
Floors, oak, 1 1/8", 1 3/8", 1 3/4"	116	+11.6	1360	2.2	255
Mast step, oak,	10	+6.6	66	2.1	21
Shaft log, oak,	15	+18.0	270	2.0	30
Rudder, oak, av. 1 1/2"	12	+22.2	267	1.5	18
Bilge Stringers, 1" × 4", 24' Spruce	48	+11.6	557	2.5	120
Clamps, 1 1/2" × 4", 30' Spruce	63	+11.2	706	4.1	258
Hanging Knees (4) Lockmuntuck	13	+10.3	134	4.1	53
Bitt, Locust, 3" × 4" av. 3' 4 3/4" pin	11	+0.8	9	4.3	47
Engine Beds	15	+14.0	210	2.0	30
	2093	+26.007 −34	4860		
C.G. 12.41' aft ⌀ = 56.4% L.W.L. 2.32' above base line		+25,973	12.41'		2.32'

Fig. 49. A page from the calculation book, showing how the weights of the different hull items and their horizontal and vertical moments are figured

work, shelves and lockers, ice box, companionway ladder, etc. Under Interior Equipment are classed linoleum or carpet, mattresses and cushions, fire extinguishers, stove and cooking gear, crockery and cutlery and the like, including all personal gear, clothing and so on. Equipment takes in such items as rudder stock, rudder port and so on, travelers, cleats, fairleads and the like, engine, propeller, shaft, stern bearing, stern tube and stuffing box, controls, piping and tanks, pumps, plumbing, anchor and cable, life preservers, paint, and fastenings. Spars and Rig cover spars, sails, standing and running rigging, and fittings.

Start each classification on a separate page, ruling columns for the following headings: Item and Material, Weight, Longitudinal Arm, Longitudinal Moment, Vertical Arm, Vertical Moment. Allow room enough to write in the name of the item and make the moment columns wide enough for five figures. And, by the way, it's not a bad stunt to date each page of the book as you start work on it.

Let's start with Hull. The first job is to get the area, weight and CG of the outside planking. Go to the body plan and measure the half girth (one side of the boat) on each station, from the rabbet to the under side of the deck, and set these down in the book. I'm a firm believer in plotting data where possible, since a curve will show up any false

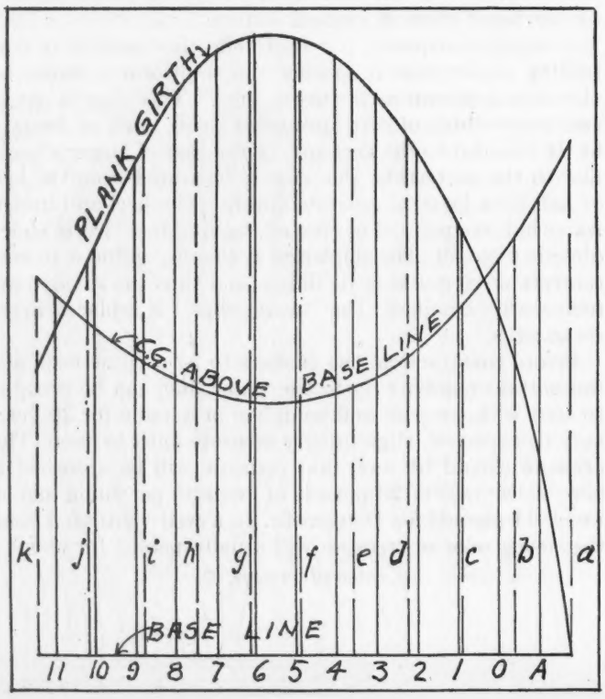


Fig. 47. Getting the area of the outside planking. Each half girth is plotted, with the position of its CG above the base line

Summary

Items	Wt.	L Arm	L Moment	V Arm	V Moment
Hull	2096	12.41	25,973	2.32	4,860
Deck	739	12.0	8,995	4.40	3,247
Deck Joinery	318	12.0	3,820	4.72	1,498
Interior Joinery	309	13.3	4,106	2.71	837
Interior Equipment	73	10.47	765	2.58	197
Equipment	928	14.02	12,986	2.88	2,674
Spars + Rig	264	10.13	2,678	16.33	4,317
	4,727		) 59,323		) 17,630
			12.55		3.73

CG. Boat from #0 12.55'
" " above base 3.73 = 1.23' above L.W.L.

For vertical position of total CG.

Displacement 5,853
Summed Wts 4,727 × 3.73' = 17,630
Lead Keel 1,126 × 0.9 = 1,013
5,853) 18,643
total CG 3.19' above base
2.50' (base to L.W.L.
CG. 0.69' above L.W.L.

For longitudinal position of CG.

Summed Wts 4,727 − 85 = 4,642
Lead Keel 1,126 + 85 = 1211
5853 5853

Then, Displacement × LCB from #0 = Summed Wts × LCG + lead Keel × X
or 5853# × 11.66' = 4642 × 12.55 + 1211X

$$X = \frac{5853 \times 11.66 - 4642 \times 12.55}{1211} = 8.25'$$

Then CG. lead Keel to be 8.25' from #0

Fig. 50. Another page from the book, showing the summary of the hull weights and moments, the CG of the hull and the calculation of the weight and the necessary position of the CG of the lead keel

measurement as a hump or a hollow where a discrepancy in figures might pass unnoticed. So, rule up a set of ordinates and plot these measurements on the appropriate ones to any convenient scale. Now, assuming that you want the vertical position of the CG, make a stab at the location of the CG of each girth as you measure it and plot the distance of each one to the base line on each station on the same diagram on which the girths are plotted (see Fig. 47). Now, since the hull extends forward of and abaft the ends of the water line, mark the ends of the boat on the diagram and divide the over all length into an even number of divisions. Draw the new ordinates to this spacing, measure their lengths up to the curve, set them down and put them through Simpson's Rule. The result will be the area and longitudinal CG of the planking. Go back to the graph and measure the distance on each of the new ordinates to the curve showing the vertical position of the CG and set them down in the book under V Arm. Multiply each half girth by its V Arm and sum the products. Dividing the sum by the sum of the column headed Functions will give the height of the CG above the base line. Having the vertical CG will be necessary when you come to figure stability and metacentric height and power to carry sail; it's easier to get its location now than later.

Since the length around the hull on the planking is greater

Fig. 48. Figuring the area and CG of the planking and the length of the frames

than the length measured along the center line, on which the stations are spaced, measure the length of the bilge diagonal and compare it with the length between its endings. It will be from 1½ to 4 per cent greater so the area just found must be multiplied by 1.00 plus this percentage to get the actual area. In the case of the boat whose calculations are shown, this excess is 4 per cent so the area, 258 square feet, is multiplied by 1.04, giving 268 as the actual area of the planking.

In Fig. 48, the sums of the Moment columns are divided by 66.70, the sum of the Functions column. The quotient of the L Moments is 5.3, the number of spaces from the forward end of the boat. This figure multiplied by 2.9, the distance apart of the new ordinates, is 15.37, the distance in feet of the CG from *a*. The point *a* is 3.77 feet forward of Station O so that the longitudinal CG is 11.60 feet abaft O. This is 52.7 per cent of the water line length, which is about right. The quotient of the V Moments is 2.78, the distance in feet of the vertical CG above the base line. As the water line is 2.5 feet above the base, the VCG is .28 above the water line. In the multiplication of the sum of the Functions, 66.7 is the sum, the first 2 is for both sides of the boat; the second 2 is because half Simpson's multipliers (¼, 1, 2, etc. instead of 1, 4, 2, etc. were used); 2.9′ is the spacing of the ordinates; and the ⅓ is for Simpson's Rule.

To get the length of the frames, an easy way is to divide the area of the planking by the frame spacing, assuming that the CG of the framing will be about the same as that of the planking. This neglects the heels of the frames inboard of the rabbet but an allowance may be made for this when figuring the floor timbers.

(Continued on page 96)

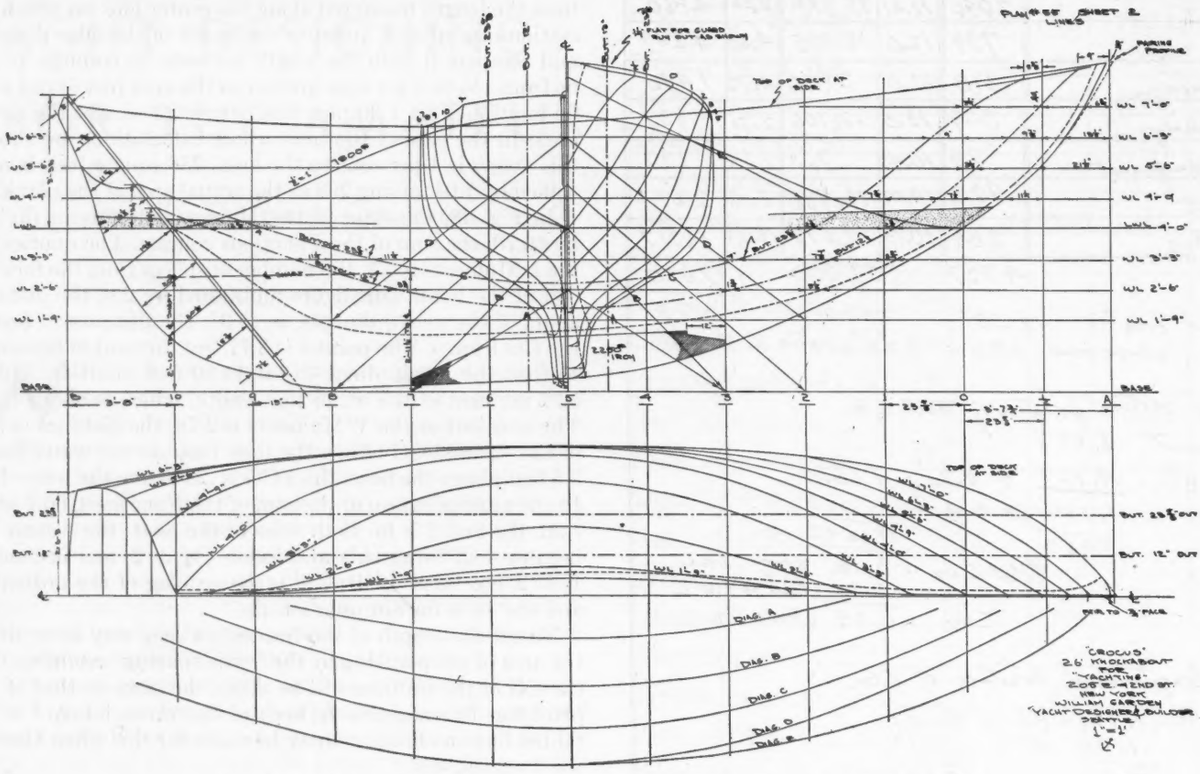
Longitudinal Moments about Station "a"
Vertical " " Base Line

Sta.	Half Girth	Multipliers	Functions	L Arm	L Moments	V Arm	V Moments
a	0	½	0	0	0	4.8	0
b	2.71	2	5.42	1	5.42	4.0	21.68
c	4.02	1	4.02	2	8.04	3.3	13.27
d	4.88	2	9.76	3	29.28	2.8	27.33
e	5.50	1	5.50	4	22.00	2.5	13.75
f	5.81	2	11.62	5	58.10	2.4	27.89
g	5.81	1	5.81	6	34.86	2.3	13.36
h	5.51	2	11.02	7	77.14	2.5	27.55
i	4.74	1	4.74	8	37.92	2.7	12.80
j	3.74	2	7.48	9	67.32	3.1	23.19
K	2.66	½	1.33	10	13.30	3.6	4.79
			66.70	)	353.38	)	185.61
					5.3		2.78'

66.7 × 2 × 2 × 2.9' × ⅓ = 258 #
Stations apart, 2.9'

5.3
2.9
15.37' from "a"
3.77' "a" to #0
11.60

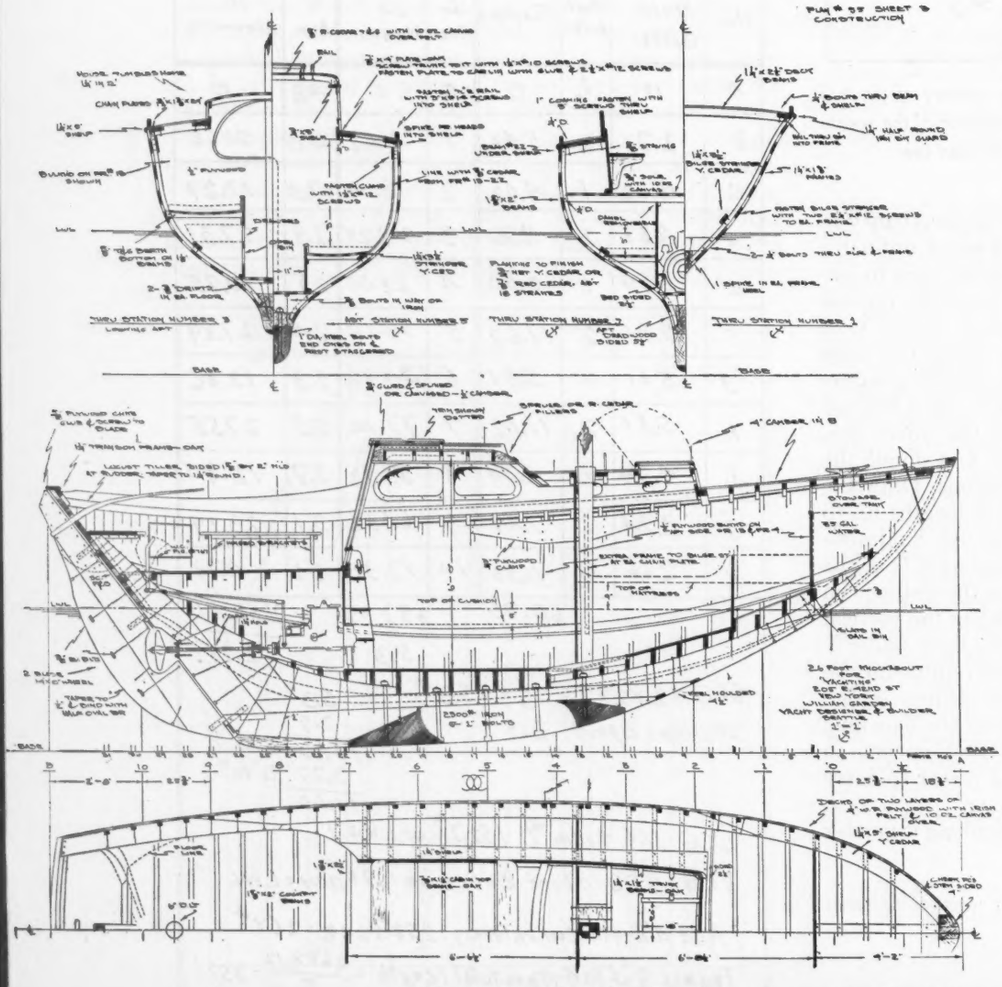
LCG 11.6' from #0 (52.7% of L.W.L.)
VCG 2.78' above Base Line = .28' above LWL
Add 4% for curvature, 258# × 1.04 = 268#
Frames 9" ∅ to ∅, then total length = $\frac{268 \times 12}{9}$ = 357'



The lines of the post-war cruiser show an interesting model with a full deck line forward

"CROCUS," ANOTHER POST-WAR CRUISER

By WILLIAM GARDEN



HERE is another in YACHTING's series of small cruising yachts for use when peace comes again. She is from the board of William Garden, naval architect of Seattle, and her principal dimensions are as follows: Length over all, 26′ 0″; length on the water line, 19′ 8″; beam, 7′ 4″; and draft, 3′ 11″. Displacement is 7800 pounds and ballast 2900, 2250 of which is on the keel. She is a short ended little packet with raking transom and rudder "outdoors," and a full, rounded deck line forward. The total sail area is 305 square feet, 92 square feet in the jib and 213 in the main. She will sleep three adults in comfort and there is room in the cockpit for a couple more on a pinch. Her designer says of her:

"At first, I had cost in mind and worked out a hull without reverse curves in the sections but this was discarded and the sections were given an S shape. This gives far stronger construction and makes an easier model to drive. The added labor in keel, moulds, framing, planking and fairing off comes to about 50 man hours. It makes the boat so much better looking that I think you will find many builders who would take her for the same price as the boat with a 'square tuck.' The rounded deck line forward is handy and I believe that we will see it come into wider use. It looks well if properly handled and the added footroom is invaluable when mooring or handling the anchor. The flare forward and tumble home aft help to reduce the apparent freeboard. A heavy

Construction plan and sections

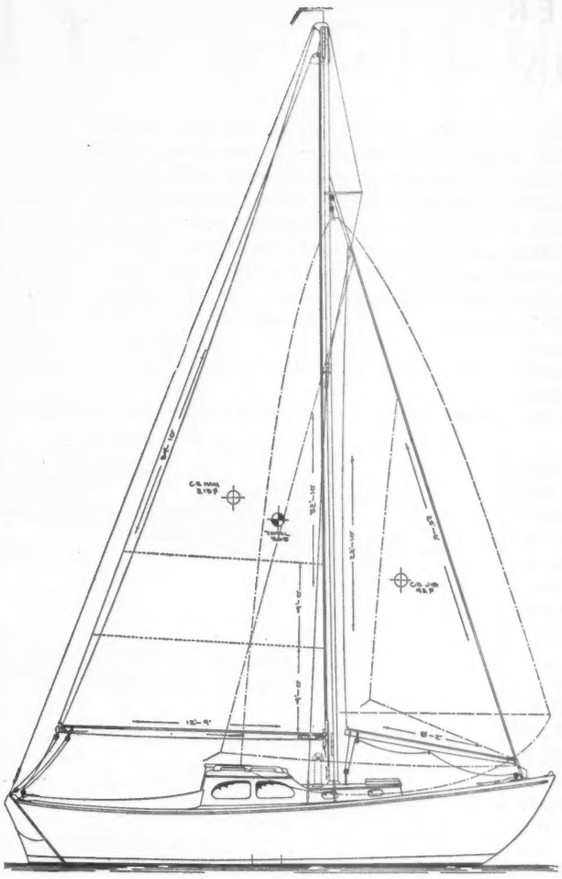
The plans reproduced in this section are the property of the designer under whose name they appear. For further information concerning any design address the naval architect in question.

shelf or harpin was used forward to be sure that the builder holds the full deck line as designed.

"One of the principal things I wanted to get was decent sitting headroom under the deck. The freeboard in *Crocus* gives this without crowding the berths too low and making the cabin floor too narrow. I've often noticed the number of boats in any anchorage which would be vastly improved had they been built but a single strake higher. If a boat has ample displacement, a little more freeboard doesn't seem to hurt her.

"The arrangement below has been worked out on another boat and proved successful there. By cutting back the bulkhead above the stove, a fine impression of space and airiness is given. The cabin seems much larger and is lots easier to heat. A curtain between the two cabins will give a certain amount of privacy. The cockpit is big enough to sleep two and a small tarpaulin may be slung over the boom to keep off the dew. The roomy cockpit will be fine for day sailing and, being deep, will be found satisfying when it's cold and blowing, with a long hitch to windward ahead. It also gives the feeling of security that comes from sitting down *in* the boat. The cockpit floor drains aft and has a couple of scuppers in the transom.

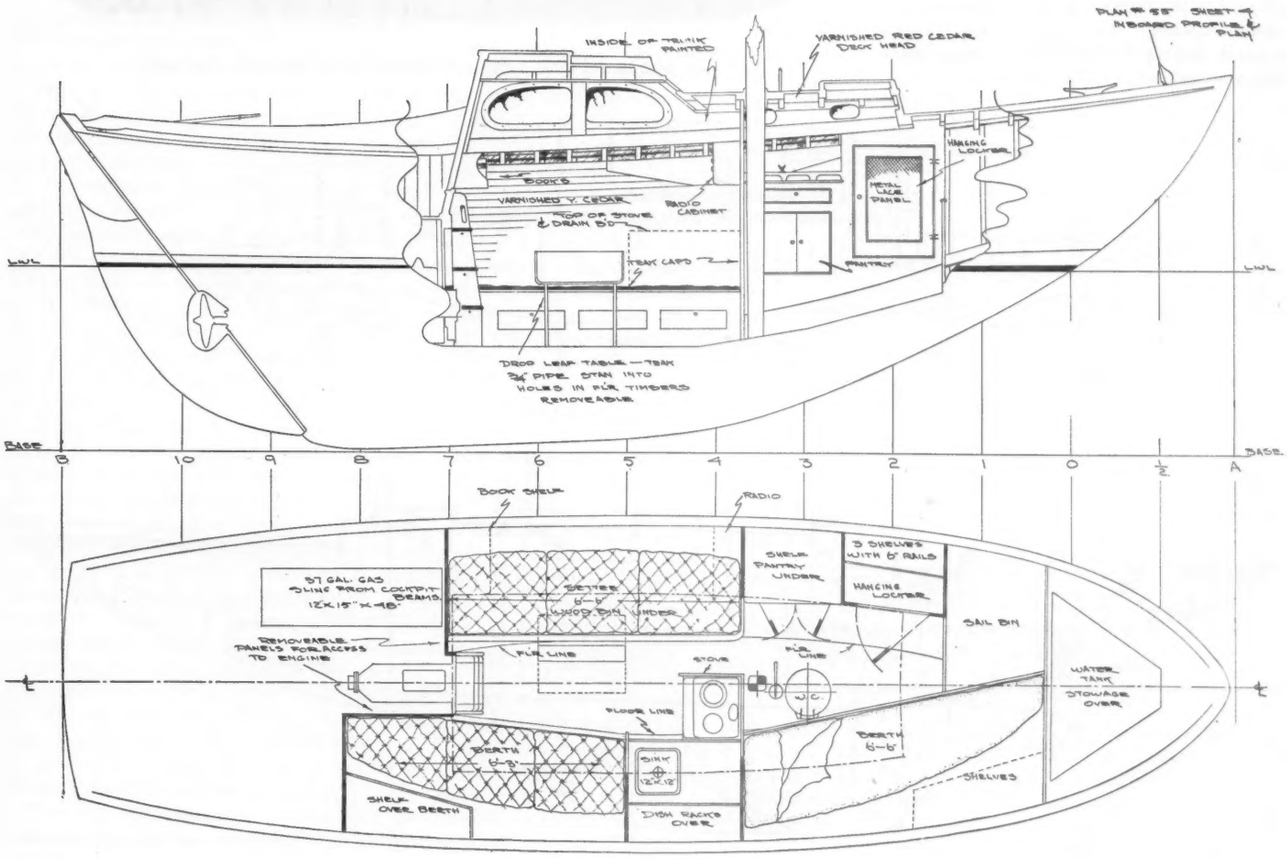
"A 2-cylinder Universal was chosen for power. It is a clean, smooth-running engine and, by the time it has been installed, the cost will be little more than that of an air-cooled machine. The rig is orthodox. If it seems high, it is because of the difficulty in getting balance in a boat with an overhang forward and a short stern without using a permanent backstay on a boomkin and having the boom hang over the transom. The rig must be shortened on the base, shoved aft as far as possible and the boat given forefoot to get the proper lead between centers. I have put the jib on a boom to do away with handling jib sheets with a crowd aboard. It isn't as efficient, perhaps, as a loose footed jib but the genoa will be carried when racing, except in a hard chance, and then the jib on a boom is a blessing."



Sail plan and, below, cabin plan and profile

The engine is located on the center line under the floor of the cockpit, with the shaft horizontal, and drives the propeller direct. A 37-gallon gasoline tank is in the wings in wake of the cockpit. A capacious water tank is located forward, with stowage space above it. The galley range is a wood-burner and a wood bin is arranged under the berth on the port side of the cabin.

The design, with the short ends and flaring bow, is interesting, and the boat should carry her sail well in a breeze and be fairly fast under either sail or power. She should be quite dry in a slop and easy to handle.



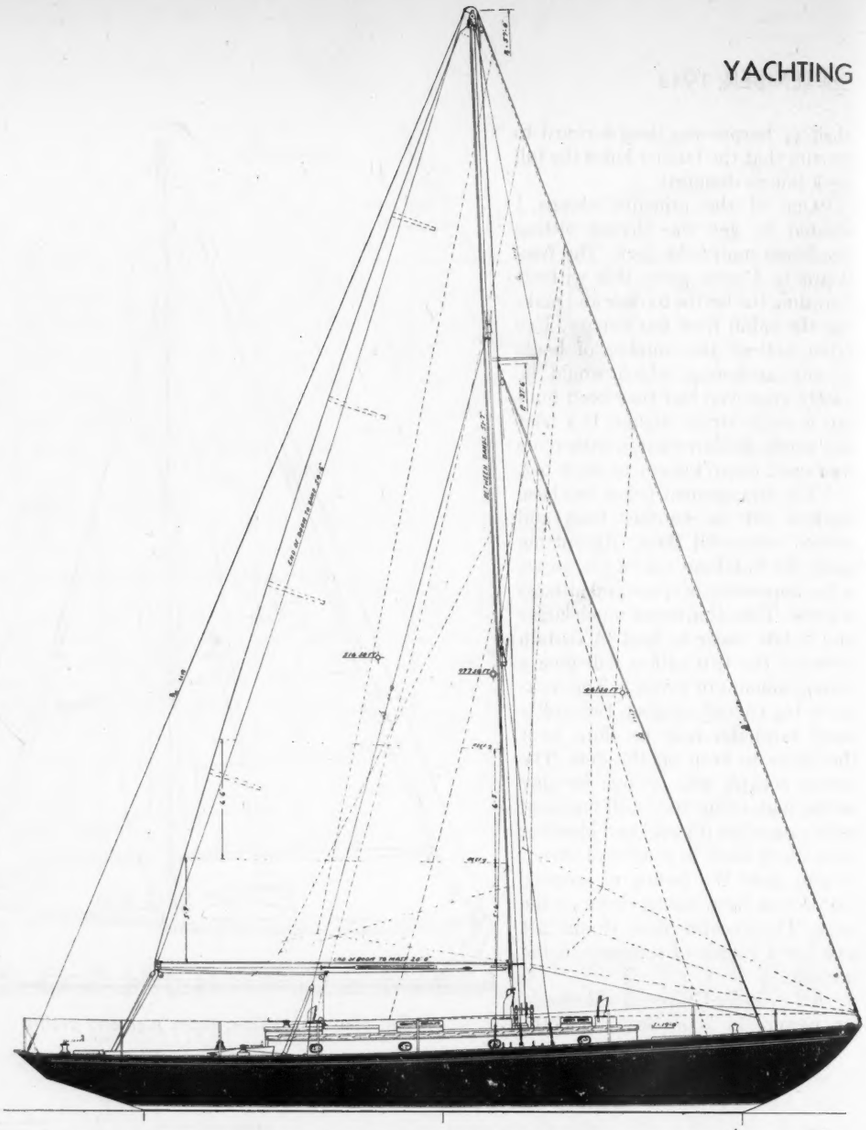
A FAST CRUISER FOR AUSTRALIA

SOME time before the war began, Sparkman & Stephens were commissioned to design a smart cruising boat for an Australian yachtsman, H. W. McGregor, of Adelaide. The plans show a modern vessel with a modern rig, a boat that, while not designed specifically for racing, should be able to hold her own in fast company. Her principal dimensions are: Length over all, 47′ 6″; length on the water line, 33′ 6″; beam, extreme, 10′ 11″; draft, 6′ 9″. Construction will not, probably, be started until peace comes and the boat will be built in an Australian yard.

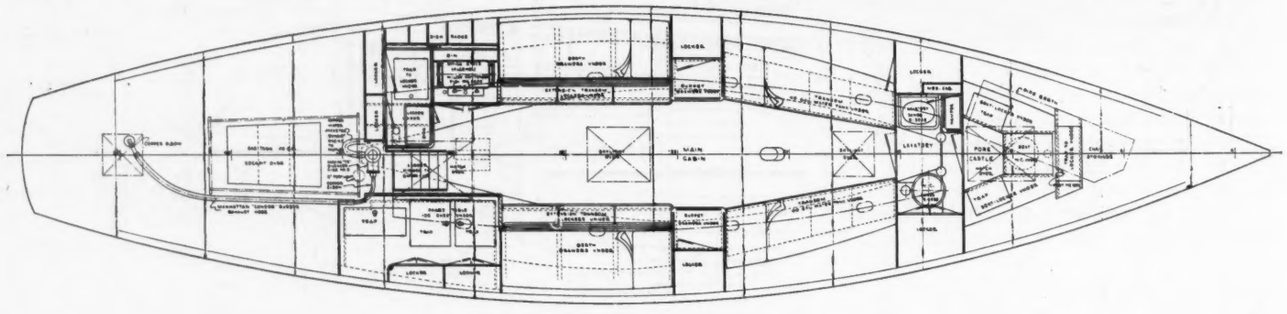
Local timber will be used: keel, stem, deadwood, horn timber and sternpost will be of kauri or teak and the frames of kauri. The topside planking will be of kauri and below the water line of jarrah, another native wood. Hull and deck strapping will be of Everdur bronze, as will the fastenings. Joinerwork below deck will be constructed of a local type of waterproof plywood.

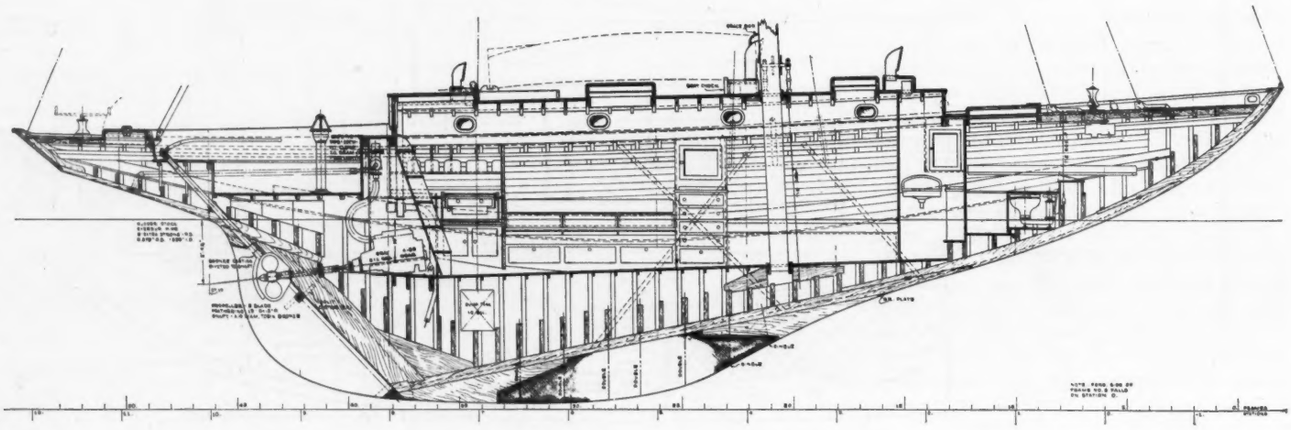
The rig is lofty with a fairly large fore triangle and the measured sail area is 977 square feet, 516 square feet in the mainsail and 461 in the fore triangle. Spars will be hollow. A good variety of light sails will be provided as well as storm canvas. The auxiliary engine will be a reduction gear Gray 4-22, driving the propeller on the center line. Her speed under power will be about 6½ miles per hour.

The cabin layout is interesting, with a large, open cabin with berths each side, galley aft and toilet room forward, next to the forecastle bulkhead. This arrangement gives a splendid feeling of room when one steps below, and assures good ventilation.



Sail plan and, below, cabin arrangement of the cruiser for Australia

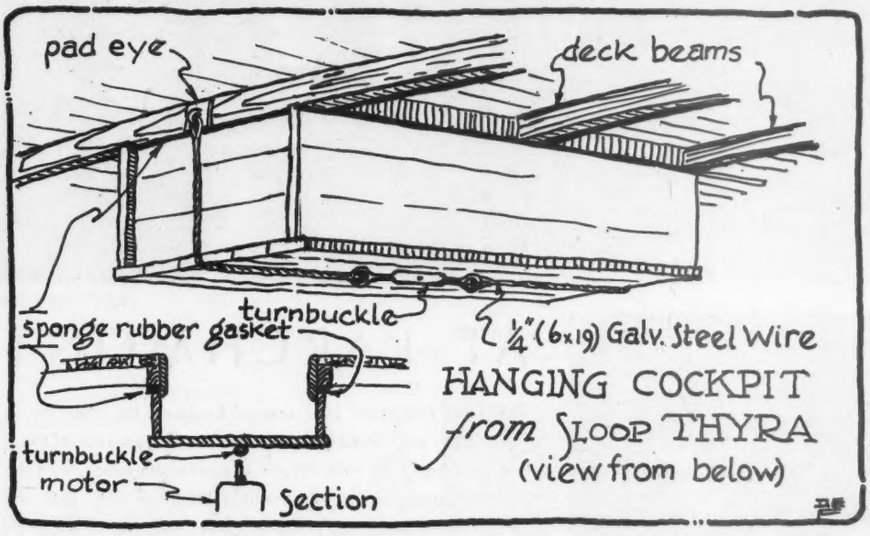




"GADGETS & GILHICKIES"

A Novel Cockpit

▶ On small boats, with watertight cockpits, locating the motor so that it will be readily accessible for repairs and adjustments is always a problem. On the little sloop *Thyra*, it has been met in a most ingenious manner. Her cockpit is essentially an inverted hatch, held in position by two short pieces of galvanized steel wire which are spliced into pad eyes screwed to the deck beams at each end of the cockpit. Between the ends of these wires, a turnbuckle is fitted; the over all length of the whole assembly is sufficient to pass down and under the cockpit, yet when the turnbuckle is tightened, the wire must force the cockpit tight against a sponge rubber gasket provided around its upper edges. The latter is for the purpose of keeping out water in the event of a heavy downpour or being pooped in a following sea.



To get at the motor, it is necessary only to unscrew the turnbuckle until it comes apart. This permits the cockpit to be removed entirely and leaves a large clear opening above the motor, through which it can be removed entirely if desired, or allowing generous space in which it may be overhauled and adjusted with ease.

If the cockpit is to be made self-bailing, it will be necessary to provide drains, preferably at the forward end, where they can be got at more easily. These should consist of a flange and a close nipple to which a piece of rubber hose may be securely fastened by a hose clamp. If it is possible, I like the cockpit drains to terminate, at their outboard ends, a couple of inches above the water line. This always seems a little safer to me, in case something should happen to the outlet when the crew is ashore. In any case, it is advisable to have sea cocks installed where the drains pass through the planking. It will, of course, be necessary to design the cockpit so that it drains toward the outlets or scuppers.

You will note from the drawing that the trim around the inner edge of the cockpit (which is fastened to the deck beams and carlines, but not to the cockpit) extends below the upper edge of the latter by perhaps an inch. This trim not only finishes off the assembly nicely, but also serves to center the cockpit on its sponge rubber gasket. It should be a reasonably close fit but not so tight that it will make it difficult to fit the cockpit into its place. The joint does not have to be watertight, as this is taken care of by the sponge rubber gasket.

If the cockpit is watertight, the motor reverse lever had better be located where it will not pierce the cockpit floor. There is one method that I know of, however, which keeps the floor tight yet permits the reverse control to come through. I saw it aboard *Outlaw*, designed by Billy Atkin for Lieut. Norton Ritchie, USNR. This arrangement consists of two pieces of brass pipe whose inside diameter is a close fit around a piece of tiller rope and whose length is sufficient to extend through the floor and above it for about 5". The tiller rope is led, by suitably located pulleys, to the reverse lever on the motor — one for forward motion and one for reverse. The ends should be equipped with suitable wooden grips or handles.

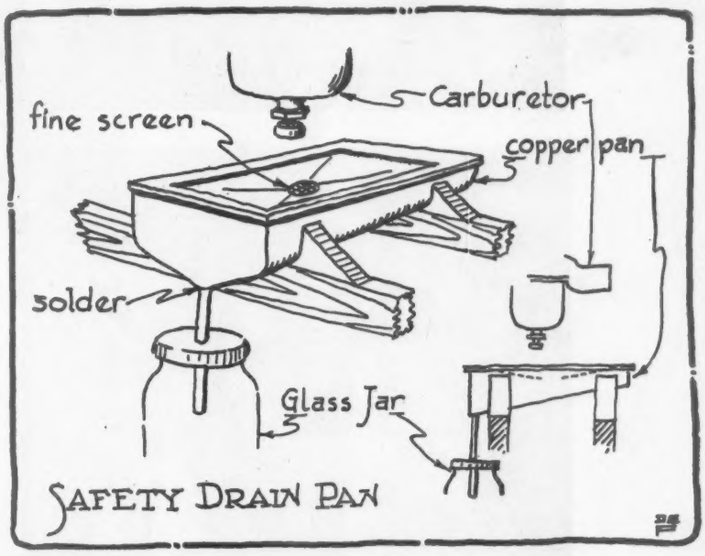
In connection with this installation, *Thyra* has a canvas curtain rigged across the boat below decks, just forward of the motor. It is of sufficiently heavy material to keep its place well, yet can be rolled up out of the way at a moment's notice. It serves to shut off the heat and odor of the motor from the cabin and makes for a much neater appearance below decks than a wide open motor compartment would permit. For a small boat, this idea has a great deal of merit.

A Safety Drip Pan

▶ In his very excellent article on motors in the May issue of YACHTING, Austin Murray, speaking of drip pans, said, "Personally, I don't favor such a gadget because it is apt to give one a false sense of security." On the other hand, however, the use of a drip pan is urged by the insurance underwriters as a wise precaution for the motor boat or auxiliary owner.

The accompanying sketch shows a pan that I developed a number of years ago for an auxiliary that I used to own. The only feature that is novel, I believe, is the use of the glass jar and the tube connection to the bottom of the pan. This was a simple candy jar with a metal top through which I drilled a hole to take the copper drain tube. The jar was held in position on a bulkhead outside the motor compartment by a piece of spring brass strip bent into the form of a clip. The jar could be pushed into the jaws of this clip and was held securely in such a position that it was easily visible from the cabin. If there was any leakage in the carburetor, it soon became apparent due to the collection of gasoline in the bottom of the jar. It seems to me that this feature overcomes Mr. Murray's objection to drip pans. I must say, however, that I agree with him most emphatically about the advisability of shutting off the gasoline between the tank and the carburetor, when stopping the motor for any length of time.

The drawing is not detailed as to dimensions because these would have to vary with almost every installation. It is simply an attempt to convey the idea of the combination of the pan and the jar. The drain tube, which is shown straight in the drawing, may be bent to any desirable shape necessary to place the jar in a convenient position. Care should be taken, however, that there are no low spots in its length which would act as fuel traps. The pan may be of galvanized iron or copper.



HAM DE FONTAINE

Rosenfeld Photos

AT LARCHMONT

This year, Larchmont Luck seemed to desert the club, for its Race Week was cursed by an almost complete absence of wind, flat days being the rule. Above, a typical afternoon, with the Atlantics struggling to finish within the time limit. Left, the Internationals were out in force. Lower left, the One-Design "Eights" were out for the first time in several years. Below, the Handicap Class provided some good racing despite conditions. Bottom, Atlantics and S boats drift over the line

THE MONTH IN YACHTING

THE N.Y.Y.C. AND THE WAR

▶ With impressive percentages of its men and boats in service, the New York Yacht Club is playing an important part in the war effort. One out of every five members is in some branch of the armed forces and 132 yachts, formerly flying the burgee of this club, are now afloat in the service of the United States and her Allies. Two members have been decorated for gallantry; one was killed in battle in the Pacific. Three New York Yacht Club vessels have been sunk by enemy action. Out of 550 active members, 110 are in service, including practically every branch of the Armed Forces and those of the Allies. They range from high ranking Army and Navy officers to apprentice seamen still in training.

Two members have been decorated, Colonel Van S. Merle-Smith by General MacArthur with the Distinguished Service Medal, and Stillman Taylor, Jr., with the Silver Star for his exceptional work aboard a PT. One member, Ensign William B. Lovering, USNR, was killed in action in the Pacific. Recently a DE was named in his honor.

Famous ocean cruising and racing yachts are listed among the 132 former N.Y.Y.C. craft now in service. These include the late J. P. Morgan's *Corsair;* Vincent Astor's *Nourmahal;* William K. Vanderbilt's *Alva;* Gerard Lambert's *Atlantic;* Barklie Henry's *Odyssey;* Arthur Iselin's *Gander* and two of Harold Vanderbilt's yachts, *Vagrant* and *Vara.*

Three club yachts have been lost in action, according to U. S. Navy announcements. These are *Cythera,* owned by Mrs. Edward Harkness, the *Niagara,* ex-*Hi-Esmaro,* the property of H. Edward Manville, and the *Alva,* W. K. Vanderbilt.

On the home front, the club is helping the war effort as well. The annual cruise and regatta have been abandoned, and the clubhouse has been made fully available to any activity in connection with the war. The club has become the headquarters for the rapidly increasing activities of the Seamanship Training Corps program, and is also the scene of the sword presentation ceremony each time a class of Midshipmen is graduated from the *Prairie State* training school. Various civilian and military committees, engaged in the successful prosecution of the war, meet regularly at the club. The Navy membership, composed of regular Navy officers, now totals more than 500 officers in service.

The present flag officers of the club are: Commodore George E. Roosevelt, Vice Commodore Gerard B. Lambert, Rear Commodore DeCoursey Fales.

O. J. MULFORD

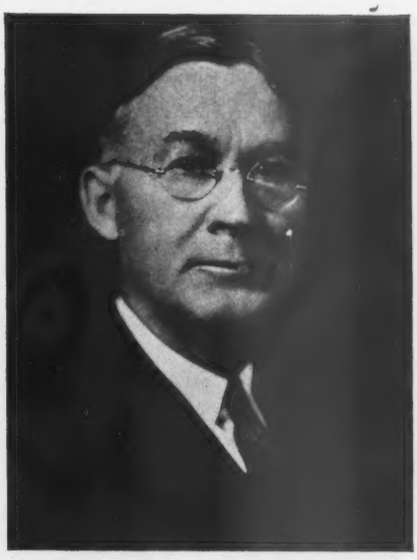
▶ Ora James Mulford, prominent Detroit yachtsman and president of the Gray Marine Motor Company, died in Detroit on August 3rd, 1943. He was 74 years old and had been in ill health for the past year.

Mr. Mulford's hobby was boats, and as a boy his first cat boat was constructed by Chris Smith, of Algonac, Mich. Later on, Mr. Mulford organized the Michigan Yacht and Power Company in 1896, which absorbed the Sintz Gasoline Engine Company of Grand Rapids. The Michigan Yacht and Power Company supplied motor boats used on the Yukon River during the Gold Rush of 1898.

In 1906, with the collaboration of Paul and David Gray, Mr. Mulford organized the Gray Motor Company to build marine and automobile engines. At a later date, he was also president of the King Motor Car Company.

For 30 years a member of the executive committee of the National Association of Engine and Boat Manufacturers, his judicious efforts and untiring enthusiasm made him one of the leading figures among boat and marine engine builders.

In addition to his prominence in the marine engine business, Mr. Mulford was one of the pioneer advertising men of the country



The late Ora J. Mulford, founder and president of the Gray Motor Company, of Detroit, and one of the most ardent yachtsmen in the country

and was the originator of street car advertising. He was the first advertising agent for the Ford Motor Company when the famous Model T was being launched. On a wall of Mr. Mulford's office, hangs a photograph of him standing beside Henry Ford's famous racing car No. 999, with Ford himself at the wheel, when they were testing it on the ice of Lake St. Clair. Mr. Mulford also directed the early advertising of the Packard Motor Car Company, and is credited with originating the phrase, "Ask the Man Who Owns One," a slogan still used in Packard advertising copy.

However, Mr. Mulford was a true boat lover and was always happiest on the water, spending as much time as he could at either his summer cottage on the St. Clair Flats, near Detroit, or in his winter home at Belle Isle, off Miami Beach. He was a member of the Old Club of St. Clair Flats, the Detroit Club, Detroit Boat Club, Country Club of Detroit and Grosse Pointe Yacht Club.

LARCHMONT RACE WEEK SUFFERS FROM LACK OF WIND

▶ The Larchmont Yacht Club's 45th annual Race Week, a dubious event when daringly announced in a determination to carry on, turned out to be more of a success than officials and contesting skippers and crews dreamed of. There were 546 starts, with a turnout of 120 craft one day. The only disappointing thing was the breeze. There was little of it at any time, none in spots. As the last yacht on the final day crossed the finish line, a fine southerly air sprang up. It was just five days late.

Even Alex Gest, whose seemingly untiring energy has done much to keep sailing going on Long Island Sound, and who is chairman of the Larchmont Race Committee, could hardly believe his eyes when the count was 106 starters on Wednesday, July 28th, the opening day. It was a mid-week assemblage to be proud of, and nearly twice the number that had been out in any previous regatta during the summer. In the almost draftless air, many could not get from their harbors to the starting line.

Three of the one-design Eight-Metres were on hand as a class for the first time in years. There were skippers from Marblehead, Philadelphia and all along the coast. Bringing their own boats was out of the question, so they chartered ones whose owners were tied up either in the armed services or in defense work of some sort.

The second day, a thunder squall loomed in the west and gave promise of some lively sailing, but it split and went around the fleet in two parts. At that, there were finishes each day, some dragged out but nevertheless accomplished.

One of the most interesting classes was that of the Fifth Division of the Handicap group, which turned out in numbers. The International sloops again led the fleets, as they did last year, and furnished the keenest competition.

The class series winners were as follows:
Eight-Metre — *Tango,* George Emmons.
International — *Sheldrake,* J. R. Sheldon
Atlantic — *Alert,* J. F. Watkins.
Class S — *Woodcock,* W. A. Olsen.
Victory — *Allouette,* D. G. MacNary.
Interclub — *Heljak,* John Nichols.
Star — *Priority,* J. H. McKee.
110 — *Ten to One,* Donald Scholle.
Comet — *Blue Peter,* William Baltz.
Lightning — *Nola,* Richard Carr.
Snipe — *Stormalong,* Eric Von Schmidt.
Wee Scot — *Evelyn,* Clarke and Mary Babcock.
Pirate — *Mary Lou,* Henry Enos.
Handicap Class, Division 5 — *Lone Star,* B. L. Norton.
Handicap Class, Division 7 — Taffy Too, H. M. Wootten.

JAMES ROBBINS

Official U. S. Marine Corps photo

These Marines, all four of them privates in the Women Reserves, about to shove off under sail during their leisure moments at New River, N. C., where they are receiving their "boot" training

AMATEUR WINS RICHARDSON CONTEST

▶ The prize winning set of suggestions in the "Cruiser of Tomorrow" contest sponsored by the Richardson Boat Co., Inc., of North Tonawanda, N. Y., was submitted by a simon pure amateur designer, Kenneth Sherman Jacobs, of Elmhurst, Ill., editor of an electrical trade paper. The prize was a $500 war bond. Second prize, $300 in war bonds, went to Henry W. Uhle, of New York, and third prize, a $100 war bond, was awarded to Charles L. Morse, Jr., of Milford, Conn. There were 25 honorable mention awards, each carrying a $25 bond, and three of these went to men in the armed services.

The nation-wide contest, which closed on June 30th, was designed to bring out ideas to be incorporated in a post-war cruising motor boat and designs were limited to boats of not more than 34 feet in length. Contestants were notified that complete designs were not necessary and that a single idea or suggestion might be deemed worthy of a prize.

Mr. Jacobs was born in Schenectady, N. Y., where he gained his first experience handling a cruiser, a boat built by his father. He studied electrical engineering at the University of Illinois. He said: "I have completed a few designs as an amateur and have assisted in the construction of several others. I have sailed considerably on Lake Michigan and upper Lake Huron and was once a member of the prize-winning crew of a boat in the Chicago-Round Island Race, the Mackinac Race for small boats. I have long been interested in boats, their design, construction and operation."

The judges were: Herbert L. Stone, editor of YACHTING; William P. Fisher, president of Fisher Boat Works, Inc., Detroit; Arthur Middleton, former Chief Commander, U.S.P.S.; Olin J. Stephens, naval architect; and Charles F. Chapman, editor of *Motor Boating*.

According to Sidney S. Walcott, president of the Richardson Boat Works, the contest attracted more than 200 entries, including

Kenneth Sherman Jacobs, winner of the first prize in the "Cruiser of Tomorrow" contest sponsored by the Richardson Boat Company

some from Alaska, Australia, Canada, Cuba and Mexico. The contest was notable, he said, for the number of entries received from men in the armed forces. The Coast Guard led in this respect, with the Navy and The Engineer Amphibian Command following in that order.

WOMEN MARINES TAKE TO THE WATER

▶ Despite the fact that Marines of the fair sex are kept active during the weeks of preliminary training at New River, North Carolina, they do have a certain amount of leisure time and they spend as much of it as possible in sailing the small boats attached to the base.

It is at New River that they are receiving their "boot" training. At the completion of this preliminary training, there are numerous opportunities for specialized advanced training but, if a woman already has some experience in a field of value to the Corps, she may be assigned immediately to active duty upon completion of the indoctrination. There is advanced instruction in ground aviation or in electricity, accounting, radio operating, photography, etc. Such training will prove invaluable for peacetime careers as well.

Women between the ages of 20 and 36, who are interested in enlisting, and those between 20 and 50 who are desirous of receiving commissions, may secure all desired information at the nearest Marine Corps Officer Procurement or Recruiting office. These offices are conveniently located throughout the country.

THE EDGARTOWN REGATTA

▶ The ancient spirit of this old whaling town was never more aptly illustrated than this year, when the Edgartown Yacht Club sailed in its twentieth annual regatta. "In spite of war, hell or high water," said Commodore Alex Orr, guiding spirit of the

This 32' 6" aircraft rescue boat was built by Milwaukee Engineering & Shipbuilding Co., of Racine, Wisconsin, for the United States Navy. Two Hall-Scott Invader engines, developing 265 hp. each, drive her 35 m.p.h.

club, "we shall sail!" Though the committee boat had to be towed to her position by the Coast Guard, for lack of gasoline, and the inshore patrols were all cat boats, manned by the village fishermen and proceeding under sail alone, though the former fleets of 200 sail, and sometimes more, were cut down to 55, it was one of the best regattas ever sailed in the history of the club!

Consuming two days, August 6th and 7th, the classes starting in each day's races were virtually the same. Edgartown, Vineyard Haven, Woods Hole, Hyannis, Bass River and Waquoit Yacht Clubs were represented in the main fleet, with one entry in the Cruising Class from Rhode Island and two from New Bedford.

Friday, the opening day, was fair, with light but steady air. The time was fast for such light weather but there was little thrill in the program. However, it gave all hands an opportunity to stretch canvas and correct any little faults.

Saturday dawned with a wind coming up with the sun, a wind that drew from west to southwest, and a sky flecked with mare's tails, guaranteeing more of it as the day passed. So it developed, the larger craft having all the wind they could swing to, and even a trifle more, for an occasional jigger was doused long before the finish.

It was unfortunate that Major J. Casey's big yawl *Lazy Lass* had no real competition. Sailing at scratch, she so far outdistanced the rest of the cruising class that, even with their allowances, they saw little of her beyond her narrow, lifting counter, from start to finish. In Friday's race, perhaps the greatest credit goes to William Bradford in his sloop *White Lie*. One of the cruising class, *White Lie* ran far off the course through error. Nevertheless, she overhauled the fleet, the nearest boat of which was at least a mile distant, and finished first of the sloops, only *Lazy Lass* finishing ahead. On the second day, *White Lie* also finished second, first of the sloops, beating the majority of the fleet badly. But T. R. Morey's *Marto* found the weather to her liking and *White Lie* earned all that she accomplished.

Virginia Weston, Edgartown's woman champ skipper and favorite of the waterfront, sailed in her final race before her marriage, which took place a week later, to Arthur Besse, one of the crack skippers of the Vineyard Haven Yacht Club. Fishermen, Coast Guardsmen, shopkeepers and the village in general voiced the hope that "Virginia would clean 'em all," in this regatta. But her time-honored rival, Otis Guernesy, was sailing, likewise Ralph Osborn, all of the Edgartown Yacht Club and all keen sailors in the Vineyard Sound Interclubs. Guernesy won in Friday's race, and Miss Weston finished last. On Saturday, Osborn finished first, with Miss Weston second, following an eight-mile scrap in which every foot was contested from the starting gun.

The Hyannis skippers came to Edgartown with the Wianno fleet, and with blood in their eyes. John J. Daley, in *Halcyon*, has a reputation that has spread far beyond the cruising ground of his own club, and his loose mast, capable of being stayed forward or aft, attracted attention here a year ago. But Dr. Robert Baxter, in *Beroba*, and Baxter and Moore in the *Noname*, made leading positions which they maintained. On Saturday, the competition was hectic. Every turning point was a snarl in this class, with boats literally rubbing sails and ribbands as they fought for position. Daley, who fouled a buoy on Friday and withdrew, figured just as fine on Saturday but, with all the wind he required, could afford to take more chances. *Halcyon* squirmed through the fleet like a greased eel, to finish first, while A. and S. Priddy, in *Hermanos*, swung into second place, nosing out Baxter and Moore by one second. In the last race, *Beroba* was astern of these.

The "Fifteens," from Vineyard Haven, the club's own special class, the "Edgartown Fifteens," and the "Rovers," all put on their own special show. No interclub competition in either of these classes but plain and fancy racing, every minute. Three boats were swamped but were still upright and with nothing carried away when the list was checked. That's the way they carried canvas at Edgartown. A good time was had by all — even by the patrolling Coast Guard, who got as excited as the rest.

JOSEPH CHASE ALLEN

CALENDAR

September 4–6 — Twenty-third Annual Fish Class Championship, Sir Thomas Lipton Trophy, Gulf Y.A., Pensacola, Fla.
September 19—Cruising Race for Commodore Pierce Trophy, Riverside Y.C.

Lake Michigan Y.A.

September 3–6 — Tri-State Race, Chicago-St. Joseph-Michigan City-Chicago, Chicago, Columbia and Jackson Park Y.C.
September 4–6 — Star Class Shipping Board Trophy Races, Chicago.
September 11–12 — Lutz Trophy Race, Class Q (Eight-Metres to rate as Q's), Jackson Park Y.C.
September 19 — Annual Sheldon Clark Regatta, Chicago Y.C.

Y.R.A. of Long Island Sound Championship Races

September 5 — Seawanhaka Corinthian Y.C.
September 6 — Larchmont Y.C.
September 12 — Manhasset Bay Y.C.
September 19 — Indian Harbor Y.C.
September 26 — Horseshoe Harbor Y.C.

Non-Championship Races

September 4 — Larchmont Y.C.
September 11 — Manhasset Bay Y.C.
September 18 — Indian Harbor Y.C.
September 25 — Horseshoe Harbor Y.C.

Chesapeake Bay Y.R.A.

September 4 — Cedar Point Race, Gibson Island Y.S
September 5–6 — Regatta, West River S.C.
September 11–12 — Regatta, Urbanna Y.C.
September 11–12 — Regatta, Elk River Y.C.
September 18–19 — Regatta, Potomac River S.A. (Tentative).
October 3 — Start of Fall Series, Annapolis Y.C.

Intercollegiate Yacht Racing Association

September 25–26 — Danmark Trophy Regatta, Coast Guard Academy.

CAUTIOUS CONRAD. His further adventures will appear as a regular feature of "YACHTING"

"OF SHIPS, AND SHOES, AND SEALING WAX"

By WILLIAM R. CHAMBERLAIN ("Porthole Pete")

IT HAS been my good fortune to have taken part in yachting for many years, and during that period I have spent lot of time behind the scenes. I have been connected in one way or another with the design and construction of almost every type of craft from a dinghy to a Class J racing yacht, and this has given me an opportunity to study many of the problems which plague all yachtsmen from almost every angle. For many years I have had the opportunity of observing the manufacture, testing, and the utility or failure of various types of marine equipment. As a result, I have seen changes come to pass almost unnoticed by the world at large, and I happen to have been shipmates with many of them.

There's a lot to be said about yachts. All people the world over who have lived near the water have used different types of hulls, rigs, and fittings so that they might harness wind power. They all had to make use of the materials and tools that were available in their localities, and the result has been an endless variety of hull design and rig. Many people like the older things as a matter of sentiment; the appeal of efficiency doesn't change them. I am old enough to have been drawn both ways, but efficiency pulls the strongest oar and my course is toward that harbor.

Some time ago I saw a photo of a sturdy yacht of old-fashioned design, construction, rig and equipment. She was probably the kind of yacht the owner liked and wanted. I am sure that he loved to sail her and he felt cosy and safe aboard her. When some yacht of modern rig sailed by him, he didn't care at all but felt proud because the "moderns" looked him over and he knew they were saying: "Boy! that's a pretty and comfortable old thing! Some of those old designs had nice full lines. They didn't have much speed as we now know it, but they could go out and take it, and you could live aboard."

That type of boat was built from a wooden model whittled out of a form made of a few layers of good grained soft wood. Some experienced old boatbuilder did it "by his eye." He took off his offsets from the model and laid her down on the shop floor or in the mould loft (if the yard had one). Then he made his moulds, set them up, put on his ribbands and away he went. Usually a good boat was the result. The interior came after the hull was planked. The ballast was inside and could be shifted to give her the proper trim; it might have been old sash weights, broken sections of grate bars or any other heavy objects. It did the job. The yacht in that photo probably started this way, and she grew up at the time her type was considered the right hull and rig for the use to which she was to be put.

But this yacht had one interesting feature which deserves more than passing mention. She appeared to be no more than 50 ft. long, yet both her bobstay and her anchor cable were of $\frac{3}{8}$" chain. This was her most objectionable feature for, from the modern point of view, this chain meant a lot of weight up forward — a place where any craft least wants it. One must remember that, when a boat drops into a sea or lifts out of one, the more buoyant she is forward the easier she takes it and the less her headway is retarded.

In one of the last Bermuda races, the winning yacht had a wire rope windlass. The same length of chain as she had in wire rope would have weighed, comparatively speaking, 600 lbs. more. Let's look at a comparison between chain, wire and rope:

When you are in a tight place and in a hurry, wire rope can be reeled

CHARACTERISTICS of
MANILA~STAINLESS STEEL WIRE ROPE & CHAIN

	DIAM. INCHES	Lbs. per 100 ft.	WORK'G LOAD Lbs.	TENSILE STRENGTH Lb. per □"	AVER. BREAK'G TEST	ELONG-ATION %	YIELD POINT Lbs.
Manila Rope	$1\frac{3}{16}$	36-40	2500		12,000		
6x19 Stainless Steel wire	$\frac{3}{8}$	23	3000	260,000	12,000		
BBB Coil Chain	$\frac{7}{16}$	220	3125	65,000	12,500	10	
Proof Coil Chain	$\frac{7}{16}$	210	2500	55,000	10,000		
U.S. Iron Chain	$\frac{7}{16}$	214	3450	48,000	11,500	22	25,000
Swedish Iron Chain	$\frac{7}{16}$	214	1625	43,500	6,500	40	23,000

A sturdy yacht of old-fashioned design, with a chain bobstay

about four times faster than the chain. Moreover, it comes in clean, and doesn't have to be stowed. And a point to be remembered is that the power used on wire rope isn't more than 25 per cent of what would be used on chain! I can hear some yachtsmen say: "Well, I like the extra weight of chain to give the anchor better holding power." First of all, the chain isn't holding power and modern types of anchors don't even need the weight of the chain.

When I see a chain bobstay, the first thing I look for is the condition of the shackle pin or the bolt through the chain at the stem fitting. There is always wear at this point, and there is apt to be rust. I once saw electrolytic action where a $\frac{3}{4}$" galvanized shackle pin was eaten halfway through by being in contact at the water line with a bronze stem fitting. The chain was badly rusted down by the water, and the pin through the bronze fitting would have let go in a few weeks. This boat showed another side to the chain story, and that is that chain is "only as strong as its weakest link." During that August night of '27, when the big blow was roaring along the North Atlantic Coast, a man in a 50-ft. yacht in a Nova Scotia harbor had 200 ft. of chain out to starboard on a 150-lb. anchor. He had manila rope on his port anchor and, desiring to change the point of chafe on the rope, he eased off a few feet of chain to get as even pull as possible. When the "weak link" went over the niggerhead, it let go—and 200 ft. of chain was on the bottom. Fortunately, he had another 150-lb. anchor below and some good $1\frac{1}{2}$" manila rope. His was the only boat that rode it out in the harbor.

The average yachtsman is not interested in details and figures. He wants to have the finished product handed to him and then go out and see what he can do with it. That is where his capability lies. He may have the touch and feel and alertness that the mechanic lacks. I have observed it many times. What goes into the thing he uses never enters his head. Some, however, are more curious, and for them I am going to make a few comparisons and observations.

Some of the advantages of wire rope are the following. To get your anchor, just turn a crank, wind it in, break it out, bring it to the chock, cat it, and the old time struggle was almost play. Your hands aren't even wet and your wire rope is reeled. Your chain locker is good dry stowage space for what you wish. Your deck is relatively clean, and no wet manila is drying out there, to go below later.

Chain is made of steel or iron. The raw material has a tensile strength on

(Continued on page 88)

CHAMPION SPARK PLUGS

bring the ultimate in dependable ignition to thousands of marine engines in combat zones throughout the world. Their better performance and unvarying dependability are backed by research, engineering and manufacturing facilities without equal in the spark plug field.

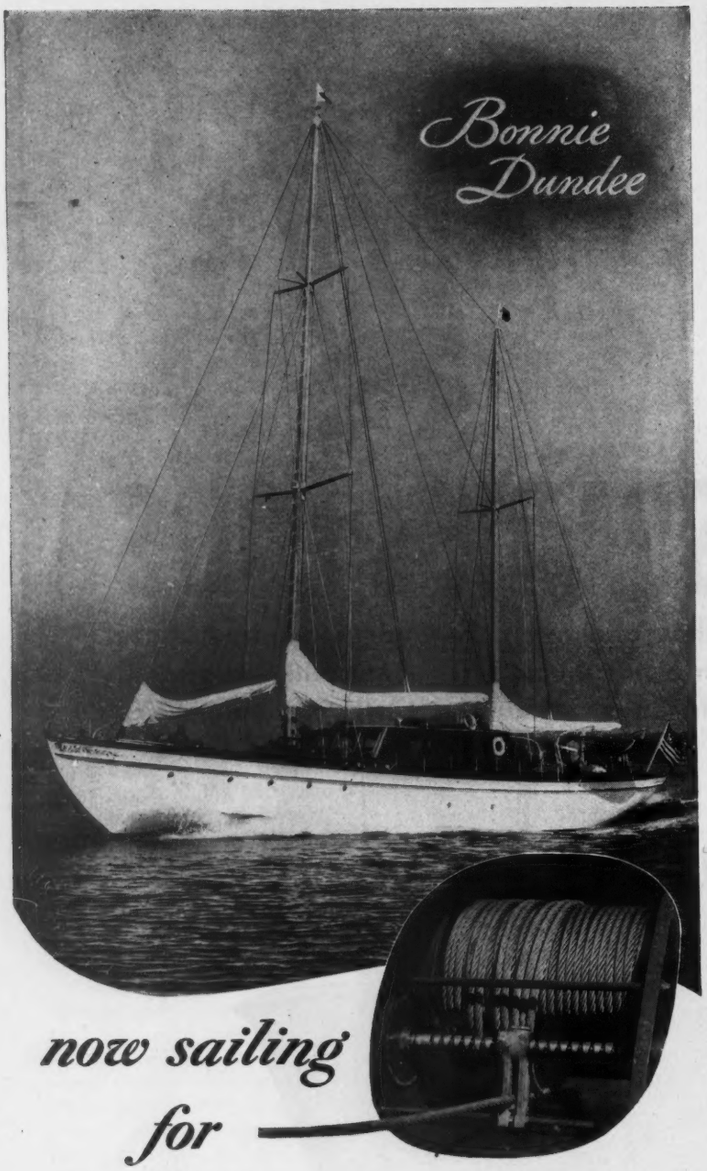
—Photo courtesy Higgins Industries, Inc.

PT boats, "Mosquitoes" with lethal stings, have one thing in common with the Champion Spark Plugs with which many of them are equipped—both carry a sting, but in the case of Champions it is a life-giving one. Their sparks which ignite the compressed gases in multi-cylindered engines are a vital factor in their great flexibility, and high speed.

Spark plugs must be dependable, and able to deliver the spark at the firing points regardless of temperatures and pressures. In marine engines in emergencies, this is particularly necessary.

Champion Spark Plugs have a reputation for dependability under all operating conditions that is unequalled. We believe this is directly due to the fact that for thirty-odd years Champion has manufactured spark plugs, and only spark plugs, backing them with research, engineering and manufacturing facilities unmatched in the spark plug field.

FOR NATIONAL SECURITY—FOR PERSONAL SECURITY—BUY WAR BONDS



now sailing for Uncle Sam . . .

★ The graceful "*Bonnie Dundee*," designed and built by Luders Marine Construction Company, Stamford, Connecticut, is now in the service of our armed forces.

"*Bonnie Dundee*" is completely equipped with Hazard "Korōdless" rigging (cable, strand and TRU-LOC fittings) even to its anchor rope which is 1 1/16", 7 x 19. "Korōdless" rigging is made of 18/8 stainless steel through and through and so is considerably stronger than ordinary rigging. Another advantage is its resistance to salt water corrosion. The fact that these ropes are preformed accounts for their high resistance to fatigue.

Both the Army and Navy use Hazard "Korōdless" cable and strand, not only for standing rigging but for steering lines, life lines, mooring pennants, anchor cable, and many other uses. If you are designing or building boats for the war program—specify Hazard "Korōdless."

HAZARD WIRE ROPE DIVISION
Marine Department • 230 Park Avenue • New York
AMERICAN CHAIN & CABLE COMPANY, INC.
BRIDGEPORT, CONNECTICUT

HAZARD "Korōdless" RIGGING

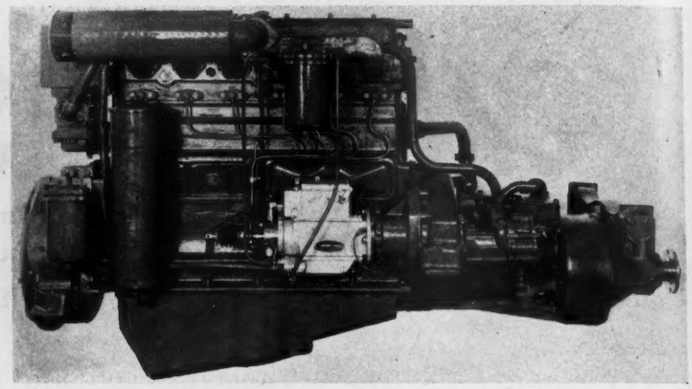
WATERFRONT NEWS

By "BEACHCOMBER"

NEW CHRYSLER MARINE DIESEL ENGINE

▶ A new marine Diesel engine, model M-12, has recently been announced by the Chrysler Division of the Chrysler Corp. This new model is of the six-cylinder type, with bore of 3¾" and stroke of 5", giving a piston displacement of 331 cubic inches. The maximum brake horse power is 82 at 2400 r.p.m.; fuel consumption is .45 to .46 lbs. per b. hp. hour at 1200 to 1800 r.p.m.

There are seven main bearings 3" in diameter with a projected area of 36.89 square inches. The camshaft has six bearings. Full-length water jackets are provided with a bypass thermostat. The electrical starting system



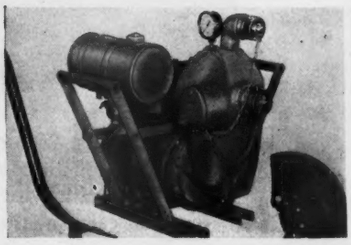
has a 24-volt capacity with a generator capacity of 5 amps. and 30 volts. The combustion chamber is of the energy cell type, with a compression ratio of 14.75:1. Compression pressure is 450 pounds per square inch at 1000 revolutions per minute.

Fuel injection nozzles are of the hydraulic-actuated type with an orifice of the single, pintle type. The fuel injection pump is a one unit multiple plunger type. There is a speed controlled injection timing advance, speed controlled regulation of maximum delivery and a mechanical top speed governor. The transfer pump is integral with the injection pump. Two fuel filters and an air cleaner are supplied.

Lubrication is pressure to the main, lower connecting rod and camshaft bearings; injection pump; injection pump and camshaft drive; and valve mechanism. The pump is gear-driven from the camshaft. An extra large replaceable element filter is provided with an oil capacity of 14 quarts. Pistons are of aluminum alloy steel-strut type, with three compression rings and two oil rings. Valves are located in the cylinder head, with seat inserts in the exhaust valves.

One of the most important features of this new engine is its quick starting in the coldest weather. Cold room tests in the Chrysler Corp. Engineering Laboratories have shown its ability to start without delay in a temperature as low as 40° below zero.

LABOUR SFI PORTABLE PUMP FOR MARINE USE

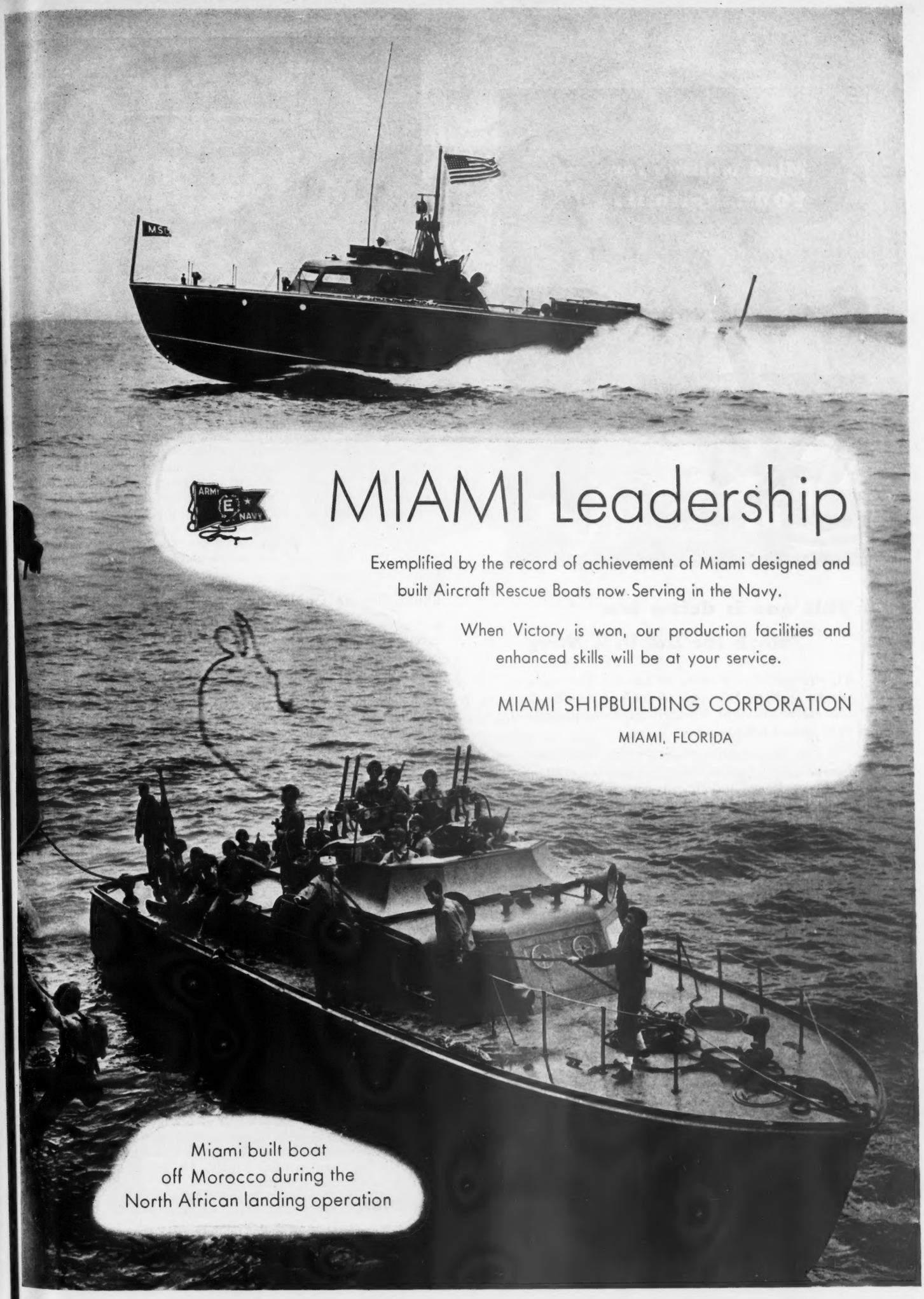


▶ Especially suited for marine use, this self-priming centrifugal pump has been developed by the manufacturers in response to the demand for a multi-purpose auxiliary unit. One casing and one impeller handle both air and water, thereby doing away with the need for a foot valve or for dependence on auxiliary devices for priming.

This No. 10 SFI model can deliver 50 g.p.m. at 65 lb. pressure, a capacity which makes it a most effective fire-fighting unit. For use in bilge or ballast transfer service, the pump is run at slower speed to increase the capacity to about 125 g.p.m. at lower pressure. It weighs but 178 lbs., complete with engine. The LaBour Co., Inc., Elkhart, Indiana.

DEMING PUMPS

▶ The Deming Co., Salem, Ohio, has just issued Bulletin No. 2000 titled "Deming Pump Applications," an entirely new presentation of the manufacturer's products which are available for war production industries and other purposes. One of the most interesting features of this publication is a "Use Index" which lists the many uses of Deming pumps.



MIAMI Leadership

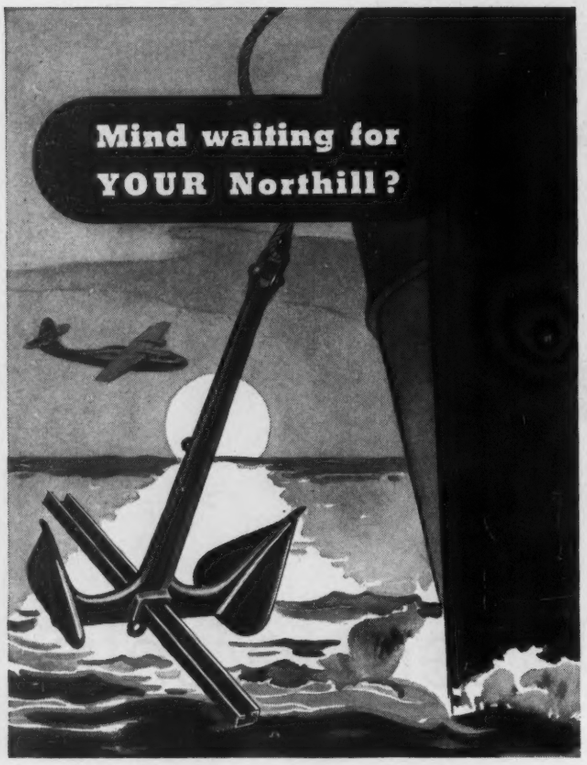
Exemplified by the record of achievement of Miami designed and built Aircraft Rescue Boats now Serving in the Navy.

When Victory is won, our production facilities and enhanced skills will be at your service.

MIAMI SHIPBUILDING CORPORATION

MIAMI, FLORIDA

Miami built boat
off Morocco during the
North African landing operation



This one is doing war work for the U. S. Navy

They're easier and faster to handle! They save weight and stowage space. What's more—these famous lightweight Northill Anchors provide *unsurpassed holding power!*

It's for important advantages like these that Northills today go to America's fighting craft—to "Flying Boats" and Mine Sweepers, to Torpedo Boats, Rescue Boats and Subchasers.

But *your* Northill will be available after the war. Then, too, you'll be offered—

***New* Northill Developments**

Northill engineering and designing experience is now at work on other products in the marine field. When released, they'll bring vast new improvements to your sailing and motor boating—new pleasures well worth your waiting for.

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SUBSIDIARY OF THE GARRETT CORPORATION . LOS ANGELES, CALIFORNIA

Visit your Ship Chandler **or Marine Supply Dealer. Ask for "The Anchoring Handbook." It's a new, FREE booklet — 28 illustrated pages of anchoring tips, rules and advice on care of ground tackle. Authoritative information. Get your free copy today!**

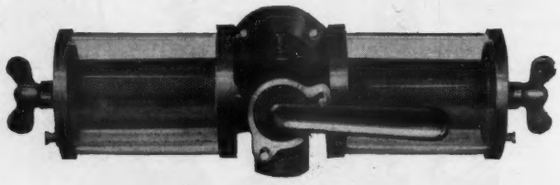
THE SHAPE OF THINGS TO COME

▶ Yachtsmen and fishermen will be among the beneficiaries when The Firestone Tire & Rubber Co's pararaft, now being made for the armed forces, is available for general use. Light and compact, the pararaft, when packed in the bag shown in the left of the illustration, measures only 14" by 15" by 3⅝". Fastened to the raft are a carbon dioxide inflation cylinder and an oral inflation tube. The supplies include paddles that fit over the wrists, a complete repair kit, a first aid kit, drinking water, chemicals to color a patch of ocean and thus attract the notice of planes, a sea anchor, a cup for bailing and drinking and a sail. The full pack weighs but 16 pounds. Paste this in your postwar scrapbook as a probable "must" for the offshore cruiser.

GROCO RAW WATER STRAINERS

▶ Two types of Groco raw water strainers for gasoline and Diesel engines have been announced by the Gross Mechanical Laboratories, well-known manufacturers of heat exchangers and marine plumbing fixtures.

An intake water strainer is a valuable accessory on any boat. It will save a great deal of trouble and expense due to clogged water jackets and the resulting overheated engine. Moreover, if the engine is fresh water cooled, it will prevent the heat exchanger from clogging, making it unnecessary to take the exchanger apart for cleaning. It is easier to clean a strainer (which takes about ten minutes) than to clean a water jacket or heat exchanger. Being able to see the water circulating through the strainer is an important



feature in that one is able to tell when the strainer needs cleaning, thereby eliminating the danger and expense of an overheated engine or worn or broken water pump due to excessive back pressure caused by clogging.

These strainers are of unusually sturdy construction. The tie rod is of Tobin bronze, the screen is of perforated Monel $\frac{1}{32}$" thick, the barrel is of clear Lucite glass and the gaskets are made of Neoprene and cork. Gross Mechanical Laboratories, 1530 Russell St., Baltimore, Md.

A PLYWOOD MARINE SEALER

A marine sealer for sealing and waterproofing all joints of plywood boats has been developed by The Dolphin Paint and Varnish Co., Toledo, Ohio, and is being marketed under the designation of No. 3675 Dolfinite. It is being used extensively on the new type assault boats.

Applied with a hand caulking gun on the frames or battens where the plywood is attached, this Dolfinite product is similar to No. 2005 Dolfinite Marine Bedding Compound and No. 2055 Dolfinite Marine Plastic Compound but is of thinner consistency.

CORRECTION

▶ In the Waterfront News section for July, 1943, the name of the manufacturer of "Heatabs" was incorrectly spelled. It is the J. W. Speaker Corp., Milwaukee, Wis.

GW FIGHTERS *write to* GW WORKERS

From the far corners of the earth! From all fronts, friendly letters are being mailed by fighting buddies (formerly GW war workers) to their working comrades in GW plants. Hundreds of GW employees are with the armed forces . . . the letters they send are incentives for GW workers to speed war production.

Following are parts of letters written by former Gar Wood employees now at the fighting fronts, to their war-worker friends:

NORTH AFRICA . . . I saw GW Winches pulling big trucks out of the mud . . . GW Wreckers towing in wrecks . . . GW Bodies taking a lot of abuse . . .
Pfc. Norman Byron

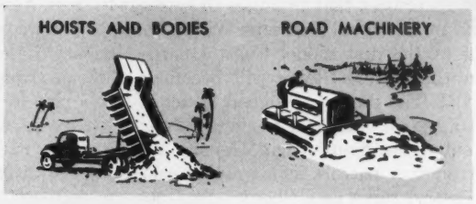
WITH THE BOMBARDIERS . . . a big GW Crane lifting a training plane and loading it on a trailer . . . worked slick, too . . .
Pvt. Paul Milligan

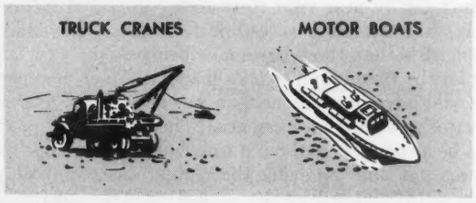
SOUTH PACIFIC ISLAND . . . our truck is equipped with a GW Winch . . . proving a "life saver" to the camp personnel . . .
Pvt. W. Hailman

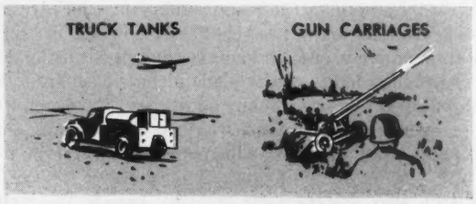
TERRITORY OF HAWAII . . . GW equipment seems to be every where . . . saw GW equipment every place I have been . . .
Sgt. George Beaudain

ALASKA . . . our trucks have GW Winches in front . . . lots of GW Cargo Bodies . . . and GW Mobile Machine Shop Bodies on trucks . . .
Pvt. Joseph Fink

U. S. AIR BASE . . . I have seen GW Road Scrapers and Roadbuilders . . .
Pfc. Robert M. Silvey







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YOU LEND YOUR MONEY

Protect Freedom
BUY
WAR BONDS
for Victory!

GW

GAR WOOD INDUSTRIES, Inc., Detroit

Do you know *Hydrotuf?*

It's the coating used exclusively by Winner on all of their Life Rafts, Life Floats, Buoyant Apparatus and other marine products... a covering of flexible cement which bonds the heavy canvas to the wood.

ABSOLUTELY WATERPROOF!

Official tests prove that Winner products covered with Hydrotuf can be submerged under water for 48 hours with NO increase in weight. After 168 hours, there's less than 1% increase in a Winner Float whereas a standard float increases over 253%.

TOUGH . . . BUT NOT HARD!

Hydrotuf is highly resistant to hard knocks and abrasion because it's always slightly flexible . . . never hard and brittle and therefore not susceptible to cracking.

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Winner MFG. CO., INC.

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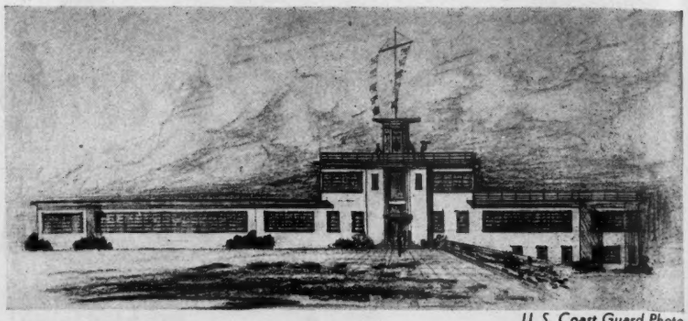
WITH THE U. S. COAST GUARD AUXILIARY



U. S. Coast Guard Photo

The new Coast Guard Auxiliary Base at Camden, New Jersey

▶ During the past two years, CGA Flotillas have become past masters at the fine art of "doing much with little." It is in connection with shore bases that the individual and collective ingenuity of the membership has made itself most evident. Broken down docks, waterlogged barges, abandoned boat houses — in fact, any shore front property — be they gutted by fire or tenanted by ghosts, have blossomed forth as spic and span shore bases and operational headquarters. Such conversions have been made possible not only by the efforts of the Flotilla members themselves, but by the generosity of public-spirited citizens who have donated time, materials, property and cash.

Speaking of bases, it is from the Fourth Naval District that word comes of a major building program. Literally bursting at the seams from an expansion that leaped upward 850 per cent in two years, it has initiated a major wartime project that promises to be regarded as a national pattern for adoption by all Naval Districts. Within the next few weeks, the structural forms of the first model Coast Guard Auxiliary Base to be constructed in the United States will become visible on Kaighn's Point, Camden, N. J. The project, designed principally as a plan for centralizing operations of patrol craft and training of Coast Guard Auxiliarists, was conceived only a few months ago. The new station will serve as an Operations Base for river patrols, as a training center for new Auxiliarists and can, if necessary, serve as a "boot camp" for the regular Coast Guard. Located strategically in a vital New Jersey area and facing the port of Philadelphia, it is far more accessible for both Pennsylvania and New Jersey Auxiliarists than those bases now being used.

As plans for the Base began to take shape, it was soon apparent that the structure would have to be larger than was anticipated originally. First, a marine elevator was considered essential. Then it became apparent that the Base would be incomplete without a well-equipped machine shop since the Auxiliary was not only relieving the regular Coast Guard personnel of regular river patrol duties, but it was also preparing to further assist the regular Service by assuming the responsibility for the care and repair of its own vessels. Another major need that asserted itself was the installation of a radio station powerful enough to make contact with all patrols from the new Base. Other high lights of the plans include sleeping quarters for 32 men with ample locker space for many additional; a modern, well-equipped sick bay; an operations office and weather observation station on the second deck; and a radio room in which operators will be on duty " 'round the clock."

The architect who designed the station, Joseph W. Hettel, has incorporated in the building many advantages which do not now exist in Coast Guard stations. For instance, to facilitate the use of the Base for instructional purposes, the mess hall can be divided into several rooms by sliding doors, thus making it possible to hold separate classes without interference. Another feature of the plan is to be found in its prefabricated design which will permit quick dismantling of the building in sections and setting it up at another site with a minimum of expense.

Too much credit cannot be accorded to the patriotic and public-spirited citizens who have made this building possible. For their splendid cooperation in establishing the new Base, credit also goes to Captain Eugene A. Coffin, USCG, District Coast Guard Officer, and to Lieut. Commander E. E. Abbott, USCGR, Director, Coast Guard Auxiliary, Fourth Naval District. It will be under their leadership that the Base will function.

▶ The Coast Guard Auxiliary of the Fifth Naval District has been making great strides in recent months. The already large membership has been growing steadily, and the members have been engaged in a score of diversified activities . . . One of the high lights of recent months was the honor given the District's Coast Guard Officer, Gordon T. Finlay, upon his

Downed—but not out!

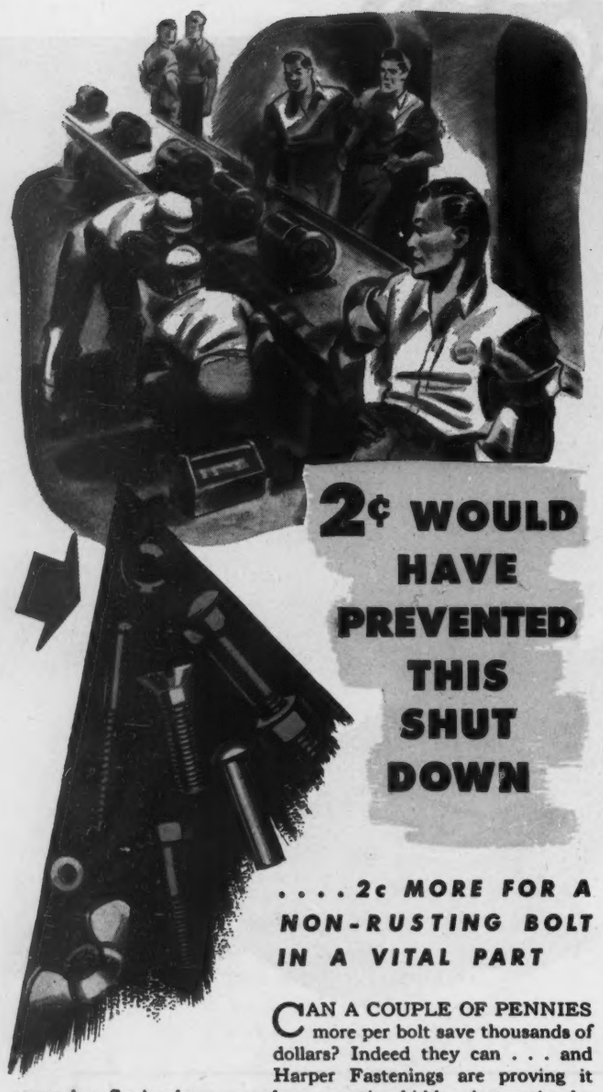
BY SAVING THE LIVES of highly trained aviation personnel, these **HARBOR** built Aircraft Rescue Boats play an important part in our all-out war against the enemy. A flyer downed is a flyer out—until this fast and highly maneuverable boat swoops out to pick him up and put him back in action.

Production-line launching of Aircraft Rescue Boats here at **HARBOR BOAT BUILDING COMPANY** give rise to some mighty exciting ideas about post war boat design. Mass production methods, developed under wartime needs, will bring you a larger, faster, roomier, safer boat—at prices far under anything you'd have paid for smaller craft before Pearl Harbor. Speed your plans for a **HARBOR BOAT** tomorrow by buying an extra War Bond today!

HARBOR BOAT BUILDING CO.

Builders of Fine Craft

TERMINAL ISLAND, LOS ANGELES HARBOR, CALIFORNIA



2¢ WOULD HAVE PREVENTED THIS SHUT DOWN

. . . . 2c MORE FOR A NON-RUSTING BOLT IN A VITAL PART

CAN A COUPLE OF PENNIES more per bolt save thousands of dollars? Indeed they can . . . and Harper Fastenings are proving it every day. Saving huge sums by preventing hidden destruction by rust and corrosion. They help war production machinery to stand up under today's grueling speed and overtime.

Such tremendous trifles, these Harper non-ferrous and stainless fastenings. Trifling too, in their extra cost. Yet tremendous in their usefulness.

4320 STOCK ITEMS . . . of bolts, nuts, screws, washers, rivets and accessories in the non-ferrous and stainless alloys.

WRITE FOR CATALOG . . . and reference book—80 pages—4 colors—193 illustrations—numerous tables and other data. Free when requested on a company letterhead.

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EVERLASTING FASTENINGS

BRASS • BRONZE • COPPER • EVERDUR MONEL • STAINLESS

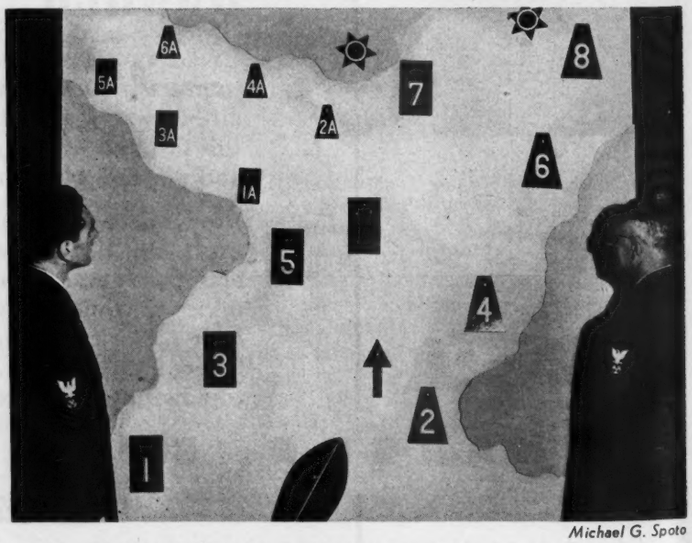
U. S. Coast Guard Photo

Fire fighters of CGA Flotilla 3, Division 4, Salisbury, Md., test fire-fighting gear

being raised to the rank of Commodore . . . In Baltimore, too, CGA cruisers have been fitted as Red Cross Emergency Boats. On constant call to lend a hand in any emergency within the local area, they are equipped with stretchers, low-wave radio, and medical equipment. Also on call are doctors drawn from the ranks of the Auxiliary and nurses of the Baltimore Red Cross units . . . At Salisbury, an auxiliary fire boat has been refitted and is being manned by local members. Equipped with 1000 gallon a minute pumps, and small enough to be easily handled in close quarters, it is believed that this is the first unit of this type operated by the Auxiliary.

▶ Available to Flotilla 66 of the Eleventh Naval District, through the courtesy of the Santa Monica Police Reserve Unit, is a 16′ house trailer equipped with a 50-watt transmitter on the same frequency as the main police apparatus. With this equipment, and supplemented by the transmitter installed on the City Life Guard boat, in addition to the two-way communication systems installed in the private cars of several members of the Flotilla, communications can be maintained between shore and boat, shore and car, or car and boat throughout the entire Santa Monica Bay area. A small power plant is part of the equipment of the trailer, allowing it to be used in any remote location where power is not available. Accommodations for sleeping and cooking are available for three or four crew members. Limited emergency medical and first aid equipment are also carried.

▶ Speaking of operational records: The Fourth Naval District, which includes Eastern Pennsylvania, Southern New Jersey and Delaware has, in eight months of offshore patrol, covered 73,980 miles, a distance equal to three times around the world. In three months the Delaware River patrol covered 11,422 miles. With the Waterfront Security Patrol taking over the protection of the land side, the port of Philadelphia is the first in the country to be fully protected by volunteers . . . A group comprising the St. Petersburg, Sarasota and Clearwater (Florida) Flotillas is furnishing the CGA with approximately 2200 boat hours and 5700 man hours per month . . . Recently several members of Flotilla 1 of the Seventh Naval District have been called upon for duty outside the United States. Three boats crossed the Gulf Stream to the British Bahamas!



Michael G. Spoto

Flotilla 602 (Larchmont, N. Y.) uses this large demonstration board for class study of piloting problems. As shown, it is set up to indicate the buoyage system for a primary and secondary channel

The first of still another type, the subchasers, goes overboard at Jacob's

Yacht Builders for Four Decades

ROBERT JACOB, INC.
City Island, New York

WHAT OUR READERS SAY

PERSONAL INTELLIGENCE

Editor, YACHTING:

▶ I have just received a letter from the well-known dinghy sailor Jim Davis who is now serving in England, and who spent a part of a recent leave with Uffa Fox. He says:

"I had a grand time with Uffa — who is just as wild as ever, if not worse. Went all over his yard which was, needless to say, intensely interesting.

"Poor old Uffa has been suffering from the disease the miners get when they get dust in their lungs. It was a result of that bomb blast he got last year, which sent him through the air for about forty yards.

"He has a new *Estate* called Puckaster, down on the South Coast, so he has dubbed himself Lord Puck! We spent a most enjoyable afternoon out there and went in for a swim in the sea. As I was catching the last boat for Portsmouth, who should step ashore but Chris Ratsey and his wife — who insisted that I go back to Cowes and spend the night, which I did.

"Poor Chris' house was set afire by incendiaries but fortunately was extinguished by a 'pack of wild Canadians' who were billeted near by (probably dinghy sailors) before much damage was done.

"The town itself is quite a shambles but life seems to go on just the same. I was in the Island Sailing Club; thank God it hasn't been blitzed, with all those priceless trophies and pictures."

CHARLES W. BOURKE

Toronto, Canada

FROM ABROAD

Editor, YACHTING:

▶ I just read Mr. de Fontaine's article about small boat cruising in the May YACHTING. It brought back memories of my sailing canoe cruises. I had one trick you might like to hear about: an ice box made of a canvas bucket with ice and perishables wrapped in burlap, then I put one cork life preserver around the bucket and doubled the other over the top and put it under a tarpaulin with the rest of my gear. Twenty pounds of ice lasted four days on one occasion.

At least twenty people have read this copy of YACHTING. It's such a rare occasion to get something like that over here that the rumors pass up and down the coast and everybody tries to borrow it. I find lots of ex-yachtsmen and have managed to do a little sailing in spite of it all. We all think YACHTING is doing a fine job and we get a tremendous kick out of it.

ED ROSS

U.S.S. PC 621

ON THE WIND

Editor, YACHTING:

▶ I have been interested in the letters about whether there is really more "push" to the wind in winter than in summer. I seem to remember from ground school that wind pressure on a flat plate (or wing) is expressed by $\frac{1}{2} \rho V^2 C$, C being a constant depending on the angle to the wind. ρ is the air density taken from tables and is usually taken as the so-called standard atmosphere which I believe, unless memory fails, is 29.97" and 58°F at sea level. The variation in density in air work, of course, is affected by altitude, but there is an appreciable difference at sea level from temperature above. As close as I can figure it by using the altitude corrector of my chart board, air at sea level at 80°F is 93 per cent as dense as air at 40°F, certainly enough to make a difference in formulae for impact pressure. It is quite true that in a 15-mile breeze the air is moving at the same velocity both winter and summer. But when we "bend" the air, the density shows up. The more we attempt to deflect the air stream, the more important density becomes. Hence, I suppose, the effect would be most marked in reaching and least in leeward work.

I know it is quite noticeable that aircraft performance on takeoff is poor in extremely hot places, such as Yuma, even to the point of causing serious accidents from failure to take off in time. As this is complicated by loss of power from hot air fed to the engine, I suppose anyone on the other side of the fence could demolish that side of my argument.

I am glad to see your section on yacht plans for the future, and I think it the most interesting feature. But then, I'm an incorrigible designer myself. Perhaps I could take after Clapham in his sniping at both sides of the old cutter *vs.* CB controversy, as I am fully sold on the sharpie type from my experiences with the *Sara Reid*, some of which you have been so good as to publish. I think the most important feature of the class now and in the post war years is that you get so much boat for your money. Her advantages are so striking that I don't think I could ever get along in another boat without her complete lack of standing rigging, and her shallow draft. Once a gunk holer, always, I suppose.

R. P. BEEBE,
Lt. Comdr., USN

Fleet Post Office
San Francisco, Cal.

YACHT CLUBS IN WARTIME

Editor, YACHTING:

▶ "Running a Yacht Club in Wartime" was a fine article, and with some excellent suggestions. It opens the field for a possible symposium on the subject which might be mutually beneficial to club flag officers and other parties directly involved.

Many factors will vary the policy: whether or not you are dealing with a large club or a small one; whether or not both sail and power squadrons are maintained; whether members are interested primarily in racing, or in cruising and general "pottering around inshore" as much as competitive aspects; whether the majority are older men or younger men; and many other nebulous aspects of policy dependent in some measure on club tradition built up over a period of years, and the peculiarities of the local situation.

There are a few random principles that I have added to my list of dicta for any practising Commodore, and I'll give them to you for what they are worth:

First: Do not assume that because a man is a big success at operating a corporation, he will make a first class flag officer. To begin with, he will probably be so busy as a commercial genius that he won't give much time to the club's business. And, aside from that, the basic philosophy of club operation is diametrically opposed to business operation; in the latter, the profit motive is the main issue; in the former, service and good natured pleasure are more important than piling up a surplus.

Second: Do not fall for that old gag about appointing people to committees on the principle that "if we give him something to do as a committee member, he will take more interest." He won't. If he is the kind who works to help the club, he will find things to do without being appointed, and that's the time to list him for an appointment. The perennial adverse critic who sounds off ad infinitum to the Rocking Chair Fleet about "what's wrong with the club administration" is always a poor prospect for jobs. He enjoys the enchanting hypnosis of his own voice more than getting into something that requires brawn or brains.

Third: Small committees do more work than large ones. It is axiomatic that in almost all cases the chairman and maybe one or two others do almost all the work, regardless of how many other confreres may be assigned to the same billet. The saying that "what's everybody's business is nobody's business" is a bromide, but it's true. As soon as you commence to diffuse the responsibility in a committee among a vast aggregation of kibitzers, the tendency is for some to feel that there are so many others that their own little efforts will never be missed, so these complacent old rogues sit back and rock and smoke their cheroots in idleness. Also, the busy chairman has more people to consult on major matters if the size of the committee increases, and hence more phony arguments to battle; it consequently impairs his executive efficiency.

Fourth: Don't make the assumption that a good racing skipper is necessarily an expert about anything else. He is often interested only in winning races and would not be especially annoyed if the roof of the clubhouse caved in, providing nobody asked him to do anything about it.

Fifth: Don't pay too much attention to that mealy mouthed old coot who gets up at every winners' dinner and spouts at great length in the old fashioned style of Fourth of July oratory about the history of the club, and its grand and glorious future. He probably was the same guy in the pioneer stages of the club, before you had a good building, who wouldn't even listen to the notion of joining; but who came in later when the hard work was all done, and now spends his decadent years telling the Younger Generation how he helped put good old Siwash Sailing Club on its feet in the year of the Big Wind.

Sixth: Look out for the fellow who is always having his picture in the papers, in full regalia, and generally staring aloft at unset canvas while holding the wheel, and having the oldest member's prettiest granddaughter draped beside him. He is probably the self appointed chairman of the Committee on Subversive Relations.

Seventh: Always remember that the two hardest jobs to fill satisfactorily are the Secretary, and the Chairman of the Race Committee. Nobody in his right mind ever wants to have either assignment, because they both get plenty of work, no glory, and are the recipients of all the verbal brickbats hove around by members with chronic grouches. I know. I have held both jobs. On the other hand, it is always easy to get a Commodore. Anyone is willing to take the honors, and a few are willing to do the work. But when the incumbent won't work, there is always somebody (often the Secretary) who will do it for him and let the Commodore go around preening himself in public, making bum speeches, and being a stuffed shirt.

D. E. HOBELMAN
Commodore,
Chicago Corinthian Yacht Club

Chicago, Ill.

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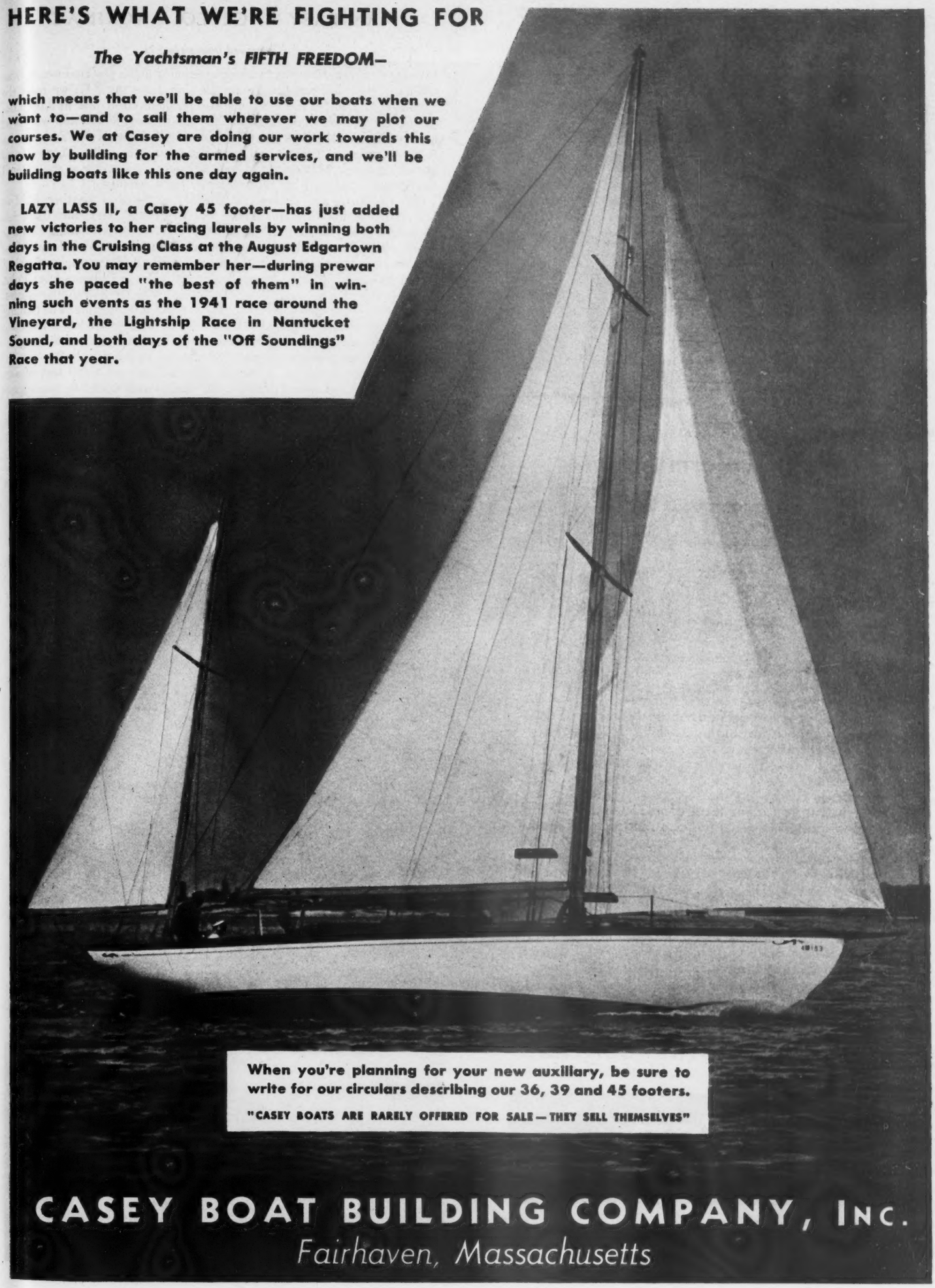
The Yachtsman's FIFTH FREEDOM—

which means that we'll be able to use our boats when we want to—and to sail them wherever we may plot our courses. We at Casey are doing our work towards this now by building for the armed services, and we'll be building boats like this one day again.

LAZY LASS II, a Casey 45 footer—has just added new victories to her racing laurels by winning both days in the Cruising Class at the August Edgartown Regatta. You may remember her—during prewar days she paced "the best of them" in winning such events as the 1941 race around the Vineyard, the Lightship Race in Nantucket Sound, and both days of the "Off Soundings" Race that year.



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BUILDERS OF ELECTRICAL EQUIPMENT SINCE 1905

AN EASY RACE TO MACKINAC

(Continued from page 23)

saved their times. However, with some cajoling and a few cuss words from the crew, the wind came in again, this time from the NW, we reset the spinnaker and with a full head of steam finished in the dusk at 8:00 p.m., saving our time on Class A. *Lassie* had disappeared astern and we sat at anchor watching the clock tick off the time we had to give her. Ten minutes to go, to win — and then a sail appeared around the point. There was no mistaking *Lassie*, ably driven in spite of losing a spinnaker as she entered the Straits. She saved her time on us by eight minutes.

The Universals and the leading cruisers had the same weather, light to moderate reaching winds, for almost the entire course; and, since there was no danger of any of Admiral Beaufort's "chimney pots" falling, this was *Lassie's* dish. The smaller yachts astern picked up heavier winds on Monday which swept them up on the leaders, and all of the yachts finished within 18 hours. *Wind Song* logged over 100 miles in 12 hours from Point Betsie to Grey's Reef, and the smaller yachts with her had similar stories, with an occasional blown out spinnaker to make it interesting. The baffling winds in the Straits, or perhaps the lack of any wind at all, left *Wind Song* becalmed just off the finish until she lost her chance to win, and then agreeably pushed her over the line at 12:30 a.m. on Tuesday, July 20.

As Mackinac Races go, it was an easy sail and not a full test of any yacht's ability and seaworthiness. Smooth seas and moderate winds gave the edge to the smaller yachts, and an examination of the corrected times will bear out this opinion. In *Tahuna*, we never missed a meal, and the stove was on gimbals only once. The yachts were well bunched for the entire race and club course tactics and sail handling were in order, particularly among the Universals and the Class A cruisers. It was anyone's race at the finish line, as the tabulations will show; and the winners richly deserve the prizes. For the others, it was a smart race and a pleasant one; and then too — There'll always be a Mackinac Race."

The summaries follow:

THE 36th ANNUAL CHICAGO-MACKINAC RACE

Start, July 17, 1943

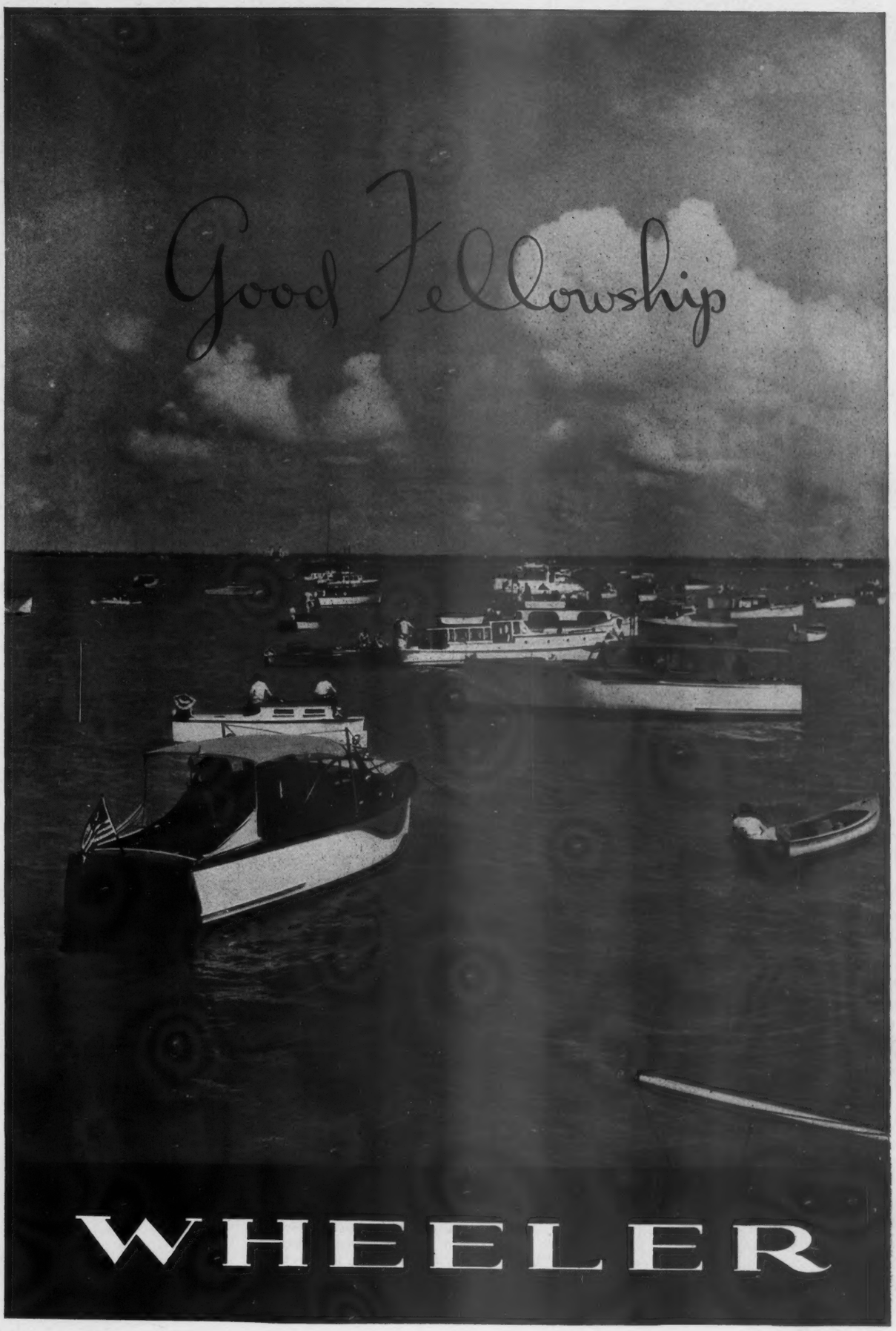
UNIVERSAL DIVISION

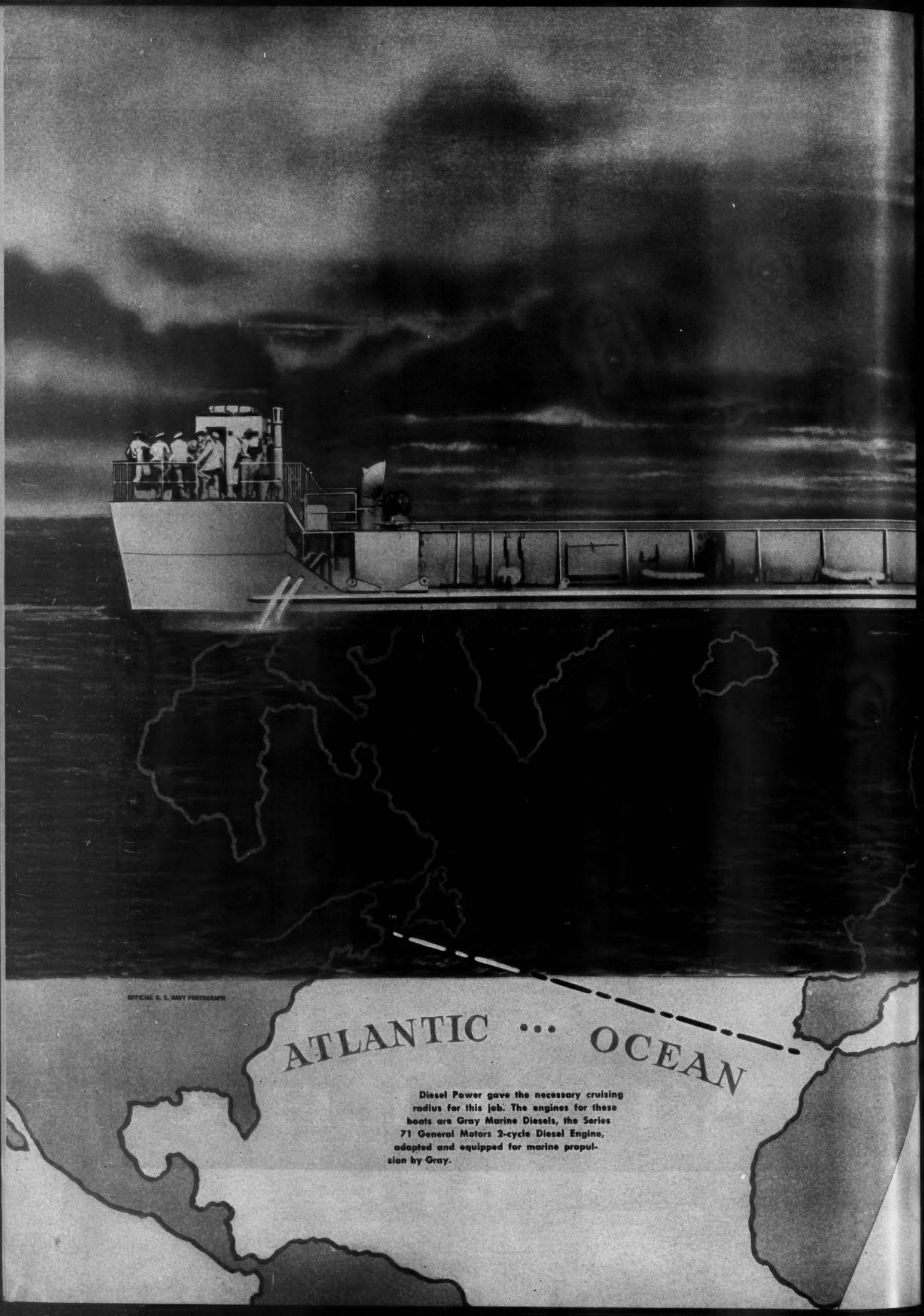
Yacht	*Owner*	*Elapsed Time*	*Corrected Time*
Gloriant	Vitas Thomas	53:32:26	51:55:25
Falcon II	Udell-Karas	53:33:03	51:56:02
Conewago	A. Pequet	53:42:15	51:56:51
Hornet	L. Cardon	53:45:28	52:08:27
Hope	A. Ver Bruggen	54:17:28	52:40:27
Joyant	C. N. Granville, Jr.	56:02:08	55:40:03

CRUISING DIVISION

	Class A		
Southern Cross	R. P. Benedict	51:40:28	49:04:24
Trident	P. H. Danly	51:36:36	49:26:07
Hostess II	K. Stanford	51:45:15	50:07:08
White Cloud	Hill-Sollitt	51:38:31	51:38:31
	Class B		
Lassie	W. J. Lawrie	54:33:55	47:42:55
Tahuna	J. T. Snite	53:26:46	47:50:43
Bangalore	Holsman syndicate	54:54:21	48:16:08
Aramis	W. B. Goltra	58:01:52	49:52:41
	Class C		
Wind Song	C. E. Larish	58:42:32	48:48:01
Rangoon	H. E. Bremer	59:46:32	50:05:04
Prelude	E. J. Both	68:25:50	57:41:32
	Class D		
Duchess	H. Olson	65:22:09	51:08:04
Nirvana	W. Fisher	65:08:45	54:05:28
Keewaydin	E. B. Tolman Jr.	65:16:12	55:08:28

The crew that drove "Lassie" to victory in the Chicago-Mackinac Race


Good Fellowship
WHEELER



OFFICIAL U. S. NAVY PHOTOGRAPH

Diesel Power gave the necessary cruising radius for this job. The engines for these boats are Gray Marine Diesels, the Series 71 General Motors 2-cycle Diesel Engine, adapted and equipped for marine propulsion by Gray.

Sea-Going Box Car

THE SAME DIESELS THAT POWERED FISH BOATS AND YACHTS ARE TODAY PUSHING FREIGHT ACROSS THE ATLANTIC IN SMALL BOATS!

ARMY E NAVY

First star awarded June 15, 1943

GRAY

MARINE MOTORS

GASOLINE

DIESEL

Time was when the passage of the Atlantic by a small boat under power was News with a capital N, as well as something of an Exploit . . . Now a news item with a New York date line relates how the U. S. Navy is doing it with whole convoys of small boats, all as a matter of routine.

This Gray-powered 105-foot Tank Lighter (LCT) is one of 76 which recently made the crossing under their own power, each loaded with a capacity cargo of munitions, passing through a storm with waves 25 feet high, and without the failure of a single boat!

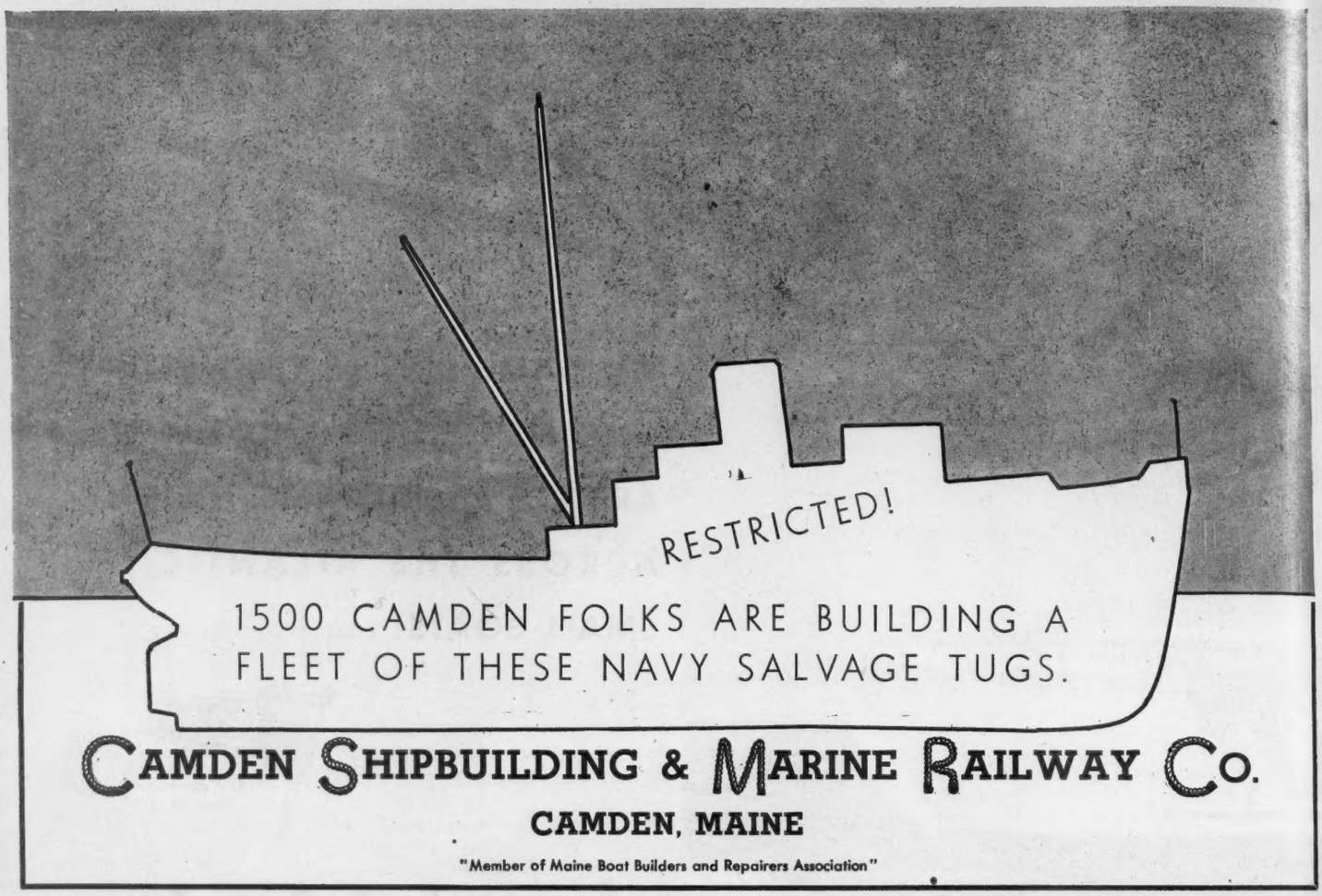
One school of naval thought, the news item says, believed it impossible for small flat-bottomed boats of such light draft to make the 4600 mile trip. The success of these "sea-going box cars" is a tribute not only to Navy seamanship, but also to the smooth powerful Diesels under their decks.

And that's not all: Built in the Mississippi Valley, these boats traveled 2000 miles under their own power before the sea leg of the journey! These are the same engines which did such a good job in the Solomons, in North Africa, in the landing on Attu, and in the invasion of Sicily.

GRAY MARINE MOTOR COMPANY

DETROIT 7, MICHIGAN

Another War Time Development: Gray's illustrated Instruction Manuals and Handbooks, published since the war, cover Installation, Operation, Maintenance, Overhauling and Trouble Shooting. Useful to Students, Naval Operators, Amphibians, Boat Owners, Power Squadrons. Write for complete list of Gray Technical Literature. Please specify Gasoline or Diesel.


RESTRICTED!
1500 CAMDEN FOLKS ARE BUILDING A
FLEET OF THESE NAVY SALVAGE TUGS.
CAMDEN SHIPBUILDING & MARINE RAILWAY CO.
CAMDEN, MAINE
"Member of Maine Boat Builders and Repairers Association"

DAMSEL IN DISTRESS

(Continued from page 37)

While I had the centerboard out, the opportunity of removing dents and scars presented itself; some were removed by planing but some were so deep that dutchmen had to be fitted, using Weldwood glue. I discovered a piece of half-round brass rod in my shop and fitted it to the lower edge of the board which takes the worst knocks, fastened it with brass screws, and faired it flush with the wood with a file.

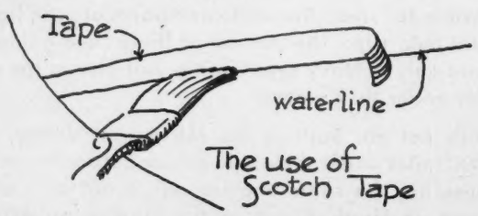
The floor boards, which are of 5/16" cedar, had split in a number of places. These splits were repaired, using scraps of 1/4" waterproof plywood and short copper nails clinched over on the under side. These pieces were so spaced that they cleared the frames when the floor was put back in place. The floor boards were painted before being replaced in the boat as it is much easier to do a good job this way.

There were a couple of split planks in the bottom and these were easily repaired by fitting pieces of mahogany 2½" wide, 3/8" thick (thickness of the boat's frames) and long enough to fit closely between the frames. These filler pieces were coated with Kuhls aviation glue where they came against the plank and were fastened with 3/4" flat head brass screws driven through from the outside of the plank. Eight screws were used for each piece and they were slightly staggered along both sides of the split to prevent the strain from all coming on a single grain of the wood which might have caused another split to develop. The screw heads were driven slightly below the surface of the plank and were surfaced over with a mixture of powdered white lead and bottom paint, mixed to the consistency of cream cheese and applied with a palette knife, which I prefer to the conventional putty knife for small work. The crack in the plank was caulked lightly with a wisp of caulking cotton dipped in Kuhls aviation glue and finished off the same as the screw heads. Care must be taken not to fill cracks of this kind too hard since the swelling of the wood when the boat goes overboard will aggravate the trouble if packed too tight, but will seal quite satisfactorily if permitted to swell normally.

After the planks had been repaired, the interior was scrubbed with a mixture of Oakite and water, washed out with a hose and given two coats of a good quality buff deck paint. The floor boards were now replaced. Brass fittings which had been removed were buffed to a fine polish and replaced.

The transom, which had been made from two pieces of mahogany with a feather joint between, had opened up about 3/16" at the joint and the varnish of several years had gathered in the crack. The problem here was to clean out the old varnish and fill the gap. Taking an old file, I heated the tang to a cherry red and bent it to form a large hook. After it had cooled, the end of the tang was filed to a chisel point and the tool was ready for use. It effectively raked out the varnish from the crack in the transom and prepared it for the next operation. Two slivers of mahogany, long enough to reach the width of the transom and of a cross section to fill the cracks, were carefully fitted into each, using waterproof glue. When the glue had set, the transom was scraped bare, using varnish remover, wiped with turps and given the same finish as the thwarts.

Her topsides were in pretty good shape so that all that was necessary was to plane off and sand her mahogany sheerstrake and finish it the same as the thwarts and transom, and sand her topside paint, after carefully filling all depressions with a mixture of white lead powder and paint (as described above). This compound dries hard so it is advisable to lay it on as smoothly as possible in the first place to avoid a lot of unnecessary work in sanding it down later. The finish on the topsides is two coats of flat and two coats of Smith's yacht white enamel, rubbed between coats with wet-and-dry garnet paper (about number 4/0) used with water and rubbed lightly. The final coat was left glossy.



The bottom required only fairing up with the white lead and paint mixture described above, sanding and a couple of coats of antifouling bottom paint, the last coat applied just before the boat was launched. Painting a fair water line is always a problem and I have solved it to my own satisfaction by the use of scotch tape. This tape comes about 1" wide so (being a bit Scotch myself) I split it in half lengthwise and attach one piece to the other. In this way only about 24" of tape will suffice.

The B-O dinks are equipped with jointed masts; fortunately, this one was in good shape structurally but pretty badly battered on its surface. To restore it to a satisfactory appearance would have required planing off more wood than I felt was wise so I compromised and, after removing all fittings from both mast and boom, gave each three coats of Dulux white, rubbing each coat except the last lightly with fine sandpaper. The fittings, after having been cleaned up with steel wool, were then replaced.

New rope, being hard to come by for the present, and the stuff that came with the boat being in usable condition, I simply soaked the lines in a bucket of water in which a couple of handfuls of Oxydol had been dissolved. In the past, I have found this washing powder to be quite satisfactory for washing sails and rope. After soaking overnight and being rinsed out thoroughly, the lines were hung in the sun to dry. They came out almost as good as new.

The dinghy is now afloat and looking quite jaunty and proud with a new sail, the gift of her godfather, Ernest Ratsey. The whole rehabilitation was accomplished by the expenditure of lots of work — which was fun — and almost no money. She is tight, seaworthy and good for a number of years more if given proper care.

THE LUCKY "LANIKAI"

(Continued from page 30)

Counting him out, this left four of us: Commander Keith, Lieutenant Commander Charles Adair, Kemp Tolley, our skipper, and myself. A "watch in four" was no hardship and the only time more than one of us needed to be on duty was going in and out of harbors, threading our way through coral reefs and shallow water. At these times, the skipper would climb high in the fore rigging, where he could con the ship. With Adair stationed on the end of the bowsprit, Commander Keith on the bridge and me at the wheel, we could take *Lanikai* into any spot which had enough water to float her.

The morning of our fourth day out of Mariveles found us about 250 miles south of Manila, off the coast of Palawan. Here we found a semi-enclosed bay which afforded us a perfect spot to spend the day. On our approach, two men put off from a small fishing schooner. We lowered a motor boat and started in pursuit. The fleeing fishermen reached the beach ahead of us and headed for the jungle but, when we fired a few shots over their heads, stopped and waited for us. They turned out to be harmless Filipinos, who thought we were Japs. All the natives ashore had fled to the hills under the same misapprehension. After receiving several live chickens, some coconuts and bananas, from our new friends, we gave the schoolmaster a box of buckshot shotgun shells and prepared to get under way.

Foul weather saved us during the next four days. Heavy seas and an overcast sky permitted us to sail right down the middle of the Sulu Sea without fear of the numerous Jap planes and ships operating in that area. When the weather cleared, we were anchored on the south side of Tagao Island, just south of Jolo, in the Sulu Archipelago. Japanese transports were landing troops on Jolo, and a fierce aerial battle was in progress as the Allied planes attempted to interfere with this operation. Several Moro natives could speak a little English; they said that the battle had been going on for two days, and they had seen many planes shot down. They also stated that four white aviators had passed this way a few hours before our arrival. These men were in a *banca* (dugout canoe) heading for Borneo. As we sailed farther southward, we had frequent reports of those same aviators but their progress was faster than our own.

From the Tokyo broadcast and news reports from London, we concluded that Borneo would be an unhealthy place to land. Changing course slightly to the eastward, *Lanikai* was headed for the North Celebes Islands. This meant three nights and two days at sea before we could reach land but the sky was still filled with heavy clouds and visibility remained poor, leading us to believe we would not be detected by airplanes. This comfortable feeling was ended abruptly the following afternoon.

We had just run through a heavy rain squall and, by careful use of the awnings, had managed to collect three barrels of rain water. While doing this, a large barracuda decided to sample the bait we had been dragging astern for days. So, with plenty of fresh water and a fresh fish for dinner, we we had settled down for the evening, when again came the cry we had learned to dread: "Airplanes!" Far off to port, almost on the horizon, were two large flying boats, cruising low and on a course parallel to our own.

The planes continued on for several minutes but, just when we had begun to think they had not sighted us, both machines turned sharply and headed directly for us. Quietly and quickly, each man put on his steel helmet and life jacket and hurried to his battle station. Every mother's son of us knew that it was a tough spot; no land for miles and miles, and one burst of incendiaries would make a bonfire of our wooden craft. Yet we did have three machine guns and several rifles. We didn't voice it, but we thought that maybe, if Lady Luck was with us, we could get one, or both,

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IPCO is four times more effective as a paint thinner than turpentine, therefore only a quarter as much of it is required to do the same work. This means less liquid to evaporate and shorter drying time. Paint spots on linoleum and wood that can only be partially removed by turpentine wipe right off with IPCO, leaving no trace of the paint even down in the grain. The surface stains that often appear on new glass are easily cleaned with it. IPCO does everything that turpentine does but does it quicker and better.

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AGENTS IN EVERY IMPORTANT PORT

of them first. As they drew nearer, still flying close to the water, I picked up the glasses. Then I shouted: "Skipper, those aren't Japs, they're Dutch Catalinas!" What a wonderful relief that was!

Having no binoculars, the others weren't convinced. The cannon pointing directly at us looked like 16-inch guns, and each of our own gunners was itching to commence firing. Still shouting, "They're Dutchmen, don't fire!" I rushed down to the chart room and, snatching the first American flag I could find, hoisted it to the mainmast. To my dismay, it turned out to be only about the size of an ordinary neckerchief but the approaching aviators saw it and swerved quickly away from us to have another look. Then we all leaned far over the rail and waved our hats, trying to appear as friendly as possible. Once more sweeping close along each side of the ship, and with a wave from the pilots, the planes were gone.

Continuing southward through Makassar straits, we reached the equator and, early on the morning of January 7, were off the entrance to Donggala Harbor, North Celebes. About five miles astern, a small warship could be seen approaching us; it seemed as though *Lanikai's* luck was beginning to run out. Our main storage battery bank was about gone, we had electricity only while the main engine was running at full speed, and two men lay in their bunks overcome by carbon monoxide. We didn't dare to enter the port, because we had no charts covering this territory.

Maneuvering *Lanikai* so that her 3-pounder could bear on the other vessel, we waited for the warship to start something. We were all bloodthirsty and gave little thought to the fact that the approaching ship had many more guns, all much larger than ours. The stranger began to flash recognition signals with her searchlight. Having no codes on board, we merely waited. She stalked us for nearly an hour in ever-decreasing circles. As she drew nearer, we recognized her as the Dutch patrol vessel *Willebrod Snellius*. With an almost audible sigh of relief, we drew up to hailing distance and asked her to lead us into port.

The war seemed to fall farther behind us. We now had a new set of charts, borrowed from the *Snellius*, and everyone was beginning to enjoy our "yachting trip." Our cook had made a wood-burning stove from a pair of water buckets and, with a new stock of supplies, was turning out delicious meals. Each town we visited was a little larger than the last and on January 11th we reached Makassar City, at the southern end of the Celebes. Here we were royally entertained by Governor Winkelman of the Eastern Islands. The local Naval and Military authorities also extended every possible courtesy.

At Makassar City, we got word from Commander de Bats, of the Royal Netherlands Navy, that Admiral Hart was now Commander-in-Chief of all Allied Naval Forces in the Far East and that his headquarters had been established in Soerabaja, Java. So, after one more day of shore leave, and with our fuel tanks and pantry bulging, we headed out into the Java Sea.

The first night out of Makassar City, I was awakened at two o'clock in the morning to relieve Commander Keith on deck. As I took over the duty, the commander told me that he had set the staysail, jib and jib topsail, and these, with the engine, were giving us a speed of about nine knots. He advised me to lower all sail if visibility did not improve.

Before the first hour of my watch passed, I became so nervous that I felt like turning handsprings. Finally, I went forward to the lookout station on top of the galley, where McVey was on watch. I was staring into the haze ahead when suddenly my eyes came to a sharp focus: there, dead ahead, a dark shape loomed up! It was a submarine on the surface and *Lanikai* was on a collision course with her! Jumping off the deckhouse, and stumbling over men sleeping on deck, I rushed back to the bridge, and shouted to the helmsman to bring her around "hard right." Almost instantly, all hands were manning their battle stations though few of them could see the sub. By now, Commander Keith had the 3-pounder unlimbered and ready to fire but the target had faded off into the haze. Either the sub had not sighted us, or thought we were just another fishing boat, not important enough to interrupt her battery charging. We headed out of that vicinity with everything we had.

The next two days, we sailed through the relatively shallow waters and coral reefs of the Postiljon Islands and, later, the Paternoster group. Navigation was both difficult and dangerous through these hundreds of small islands, with their crystal clear waters and broiling sun, but at least the submarine menace wasn't so threatening.

Early in the morning of our 21st day out of Bataan, *Lanikai* was anchored in a small bay on the north side of Lombok Island. Several grass huts could be seen along the palm-fringed shore and, further inland, large rice paddies. The skipper sent five of us ashore to investigate the local situation and endeavor to pick up any news. The moment we shoved our motor boat up on the beach, a group of turbaned natives approached us with every indication of friendliness. It was evident, however, that none of them could speak English but, by coaxing signs, they indicated that we should follow them. Leaving one man to guard the boat, the rest of us followed our guides through a clump of palm trees, where we found a dilapidated old Ford waiting. Here we hesitated but the natives kept making violent signs, grunts and grins, obviously indicating they had something

BONNIE DUNDEE
IN PEACE AND WAR

In 1940 the 85′ Diesel motor-sailer Bonnie Dundee was known as "The Yacht of the Year." Designed and built by Luders Marine Construction Co. for the late Commodore Clifford D. Mallory, she is an outstanding example of the last word in safety, cruising comfort, convenience and beauty.

In war, although the sparkling beauty of her white topsides has been altered by her gray uniform, her sturdy ruggedness gives her the same sea worthiness and comfort which enables her Coast Guard crew to "take it" on their arduous patrols.

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Day in and day out these tough, husky Matthews Stock Cruisers are patrolling the home shores while the latest Matthews Landing Boats are busting beaches on foreign shores. In war or peace, Matthews boats carry that unmistakable mark of quality so evident during the past 53 years.

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important to show us. The car took us about two miles inland, where we found a native city. In the center of this settlement was the usual Dutch Government House, looking oddly out of place among all the mud and thatch homes of the natives.

We were led to the local "courthouse" and the entire party urged me to a telephone booth. One of them rang a number on the country-style telephone and then handed me the receiver. With no idea what to expect, but wishing to please our hosts, I picked up the instrument and said a cordial, but nervous, "hello." Immediately, an excited voice came back, in perfect English, with a "Who is speaking, please?" I explained who I was and how I happened to be talking to him. The person at the other end of the line was the governor of the island, speaking from his office in Mataram, about 20 miles away. He told me he had been advised by the native police that a Japanese ship had arrived at our anchorage and was unloading troops in motor boats. The governor said that he had dispatched his local police force to the defense of the place, and these "forces" were now en route with orders to shoot on sight! Sending a man back to warn *Lanikai* of the impending attack, I stationed myself in the center of the road and awaited the arrival of the irate Dutchmen. In a few minutes, a motorcycle came dashing down the highway. He was as startled as I, as he drew up and saw an American naval officer when he had been expecting a Jap.

One night's run from Lombok brought us to anchor off the east coast of Bali. Everyone on board was happy at the prospect of visiting this spot. Our pleasure was marred somewhat by the sight of an American freighter, half submerged in the channel, where she had been caught by a Jap sub the evening before. This tragedy was soon forgotten as we enjoyed the hospitality of the local officials, and gaped, tourist-like, at the exquisite display of natural perfection in all its forms, gathered here in a tropical Eden. How I shudder to think of Bali being in the claws of the men from Tokyo!

Lanikai was brought to a berth in the navy yard at Soerabaja, Java, on January 22nd, exactly 27 days out of Bataan. With no news from us, the officials at Corregidor had selected this day to notify our "next of kin" that we were missing in action. We arrived at headquarters just in time to cancel that message. The equipment, the justification for our venture, was immediately delivered to the Fleet Communication Officer, who put it into service in Java, where radio gear was urgently needed. *Lanikai* was overhauled and made ready for any part she might be called upon to play in the tragic days which lay ahead.

Our old schooner had tasted the excitement of war on the high seas, so it is just as well that her weeks spent in the dockyards of Java were not too dull. The Japs were just beginning to encroach upon this area and vital military targets, such as the navy yard, suffered daily bombing and strafing attacks. The .50-caliber machine gun, stolen from Commander Bridgett, now began to pay for its ride, as more than one Zero fighter and dive bomber went crashing into the harbor with a bellyfull of flaming steel, dished out by the ex-pleasure craft.

Near the end of February, when it was evident that Java would fall, *Lanikai* was ordered to make for some port to the south. My duties kept me ashore but Commander Adair and Kemp Tolley, with the original crew, sailed the old boat through the straits of Bali and southward to Australia. Through those Jap-infested waters went *Lanikai*, where many other Allied vessels, outnumbered by the enemy, went down fighting to the last. The little schooner rescued some American aviators, shot down near her, and then reported for duty to Vice Admiral William Glassford, Commander U. S. Naval Forces, Southwest Pacific.

After many difficulties of my own, I finally reached Australia by submarine. It was not until some months later, after I had returned to the States, that I learned of *Lanikai's* lucky escape from the naval disaster of the Java Sea. Had it not been for the gallant crew aboard, I would have been happier about her fate if she, too, had gone to the bottom in a blaze of glory, along with *Langley*, *Houston*, and other immortal men-o'-war! Instead, she was sold to the Australian government. Then, with her masts chopped off and her machine guns removed, *Lanikai* became a "boom vessel" in a south Australian port. There she rides sluggishly at anchor, sad, bedraggled but unashamed!

UNDER THE LEE OF THE LONGBOAT

(Continued from page 38)

"No," bellowed the General, "but —"

"Thank God," said the looey, hanging up.

To my receptive ear has come the aspersion that I don't know the difference between dynamite and TNT and that I pulled a boner in referring last month to dynamite depth charges. If you have the same criticism to make, please save your postage and don't blame your ignorance on me. I've seen them and I've crumbled their innards in my fingers, but in the year since I've been shipmates with dynamite depth charges I have an idea they have been superseded by something a trifle less spontaneous.

They graduate from "Evinrude University"

to serve on fighting fronts around the globe

EVEN before America went to war, companies of uniformed men began to fill the "class rooms" of Evinrude's long-established service school. Even then fighting Evinrudes were coming off the production lines. To keep them running under the toughest service conditions motors have ever faced . . . to patch up battle-scarred motors and speed them back for more — requires battalions of resourceful, highly-trained experts in outboard handling, maintenance and repair.

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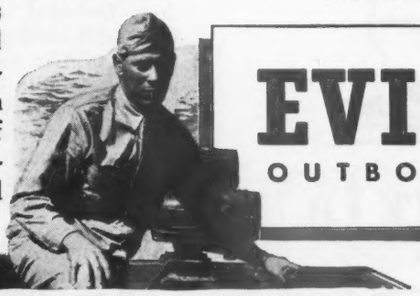
We are glad that our peacetime Dealer Service School was equipped, staffed and ready for its wartime job. Serving America's fighting forces with all our resources necessarily restricts service and parts available to Evinrude users. After Victory there will be sparkling new Evinrudes . . . and again, complete and satisfying service to every owner of an Evinrude motor!

EVINRUDE MOTORS, ***Milwaukee, Wisconsin***

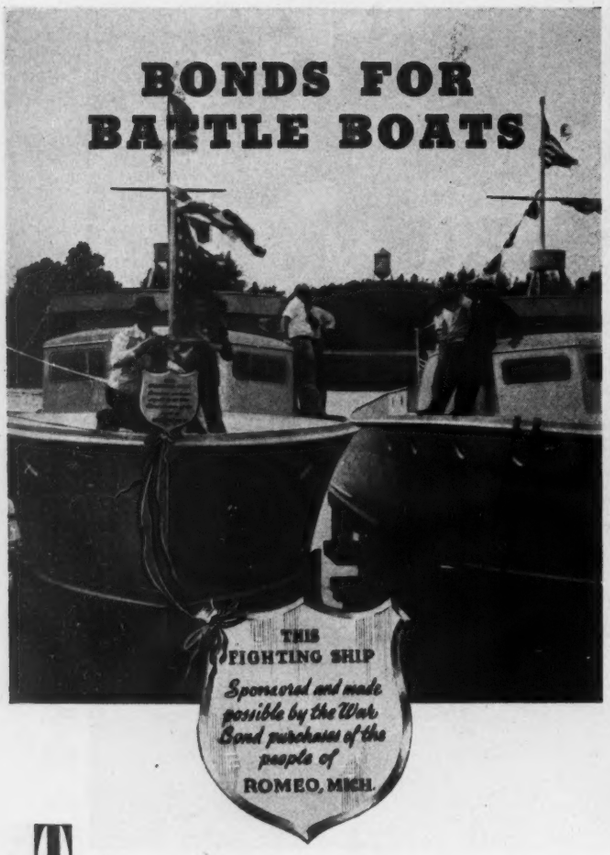
Evinrude Motors of Canada, Peterboro, Canada



EVINRUDE

OUTBOARD MOTORS

★ **HELP SPEED VICTORY . . . BUY MORE WAR BONDS**



This aircraft rescue vessel was made possible by the war bond purchasers of a typical American small town, whose people pledged themselves to the amount of its cost. The pride of sponsorship felt by these villages is justifiable. In this boat they see concrete evidence of just how important their bond purchases can be . . . . To the yachtsman, this kind of bond buying presents double value. First, he sees his dollars take the form of trim, grey fighting craft that will help spell defeat for the Axis. Then, in the years following Victory these same bond dollars can be converted into that sleek cruiser he has always dreamed about . . . Battle boats today or pleasure craft tomorrow—with your bond dollars!

"Barlovento," by Cox & Stevens, 1932, carried a tall and efficient rig

TWENTY YEARS OF YACHT DEVELOPMENT

(Continued from page 41)

than the one from Montauk which *Highland Light* sailed, yet *Amorita*, 100 feet in length, averaged only 8½ knots as against nearly 9 for the smaller craft. Even many of the yachts smaller than the *Highland Light* in the 1932 race averaged over 8¼ knots for the course, which speaks well for the speed developed in these small ocean racers, even under weather conditions suitable for fast time. Most of the contestants were reefed down for the better part of a day in this race and, with a heavy head sea that slowed them up somewhat and through which the little yachts bored, the going was truly remarkable. The showing was much better than could have been possible with a fleet of comparable size ten years before.

Malabar X, an Alden-designed schooner, won on corrected time and took the Class A prize, and the little *Dorade*, turning in a remarkable performance, won in Class B by a margin of over eight hours on the second boat. *Highland Light* carried a modern cutter rig and *Dorade* the latest development of the yawl rig. Both were extremely efficient. These two rigs were beginning to crowd the formerly popular schooner rig, and were to be seen more and more on ocean racers during the next eight years.

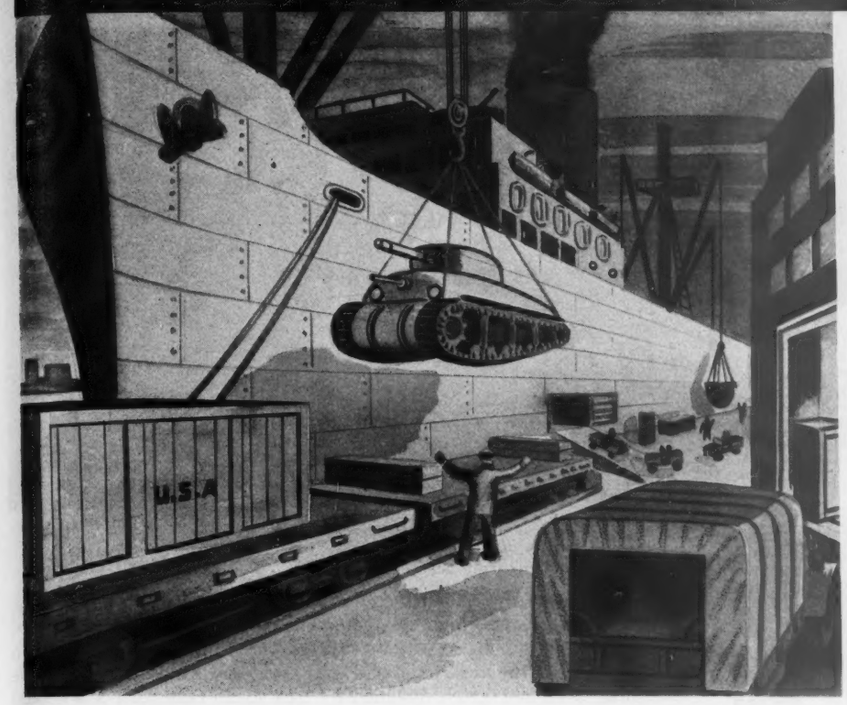
During the next two years before the 1934 race, the measurement rule came in for an overhauling, largely in an effort to prevent a tendency towards the development of extremely narrow boats such as *Dorade* which were favored in rating under the old formula adopted in 1927.

In arriving at a rule, the objective was to get one that would prove equitable to the great fleet of existing boats and, as far as possible, prevent new boats built especially to the rule from having an undue advantage. To this end, the committee had the help and the judgment of several naval architects, including Clinton H. Crane, John C. Alden, Olin J. Stephens, Philip L. Rhodes, B. K. Sharpe and Gordon Munro.

In theory, the rule was based on what was considered the normal and desirable type of fast cruiser, and the various characteristics common to such yachts, such as the generally accepted beam ratio, displacement, draft, freeboard, etc., were given their normal values. Any deviations from these values were not prohibited but were taxed, if less than the normal, or given a premium if in excess of normal. Thus, a yacht that complied exactly with the normal values of the various factors would have no tax for beam, displacement, draft, freeboard, etc., while if her beam, displacement or freeboard were less than the norm, each would be taxed in the formula, and any deficiency in draft or excess in beam would receive a premium. Bow and stern overhangs were also brought under control in the method of measuring, to prevent undesirable features. The formula was: Rating = $.6\sqrt{S.A.} \times$ Rig Allowance + .4 L, plus or minus beam and draft differences from the norm, and plus any deficiency in displacement, freeboard, and bow and stern overhangs which the rule set up as a normal standard.

The rule was not perfect (no rules ever are) but it was a step forward, and it was the basis from which the later and present rule was evolved, which has now been generally adopted in this country for ocean racing boats.

AROUND NOISY DOCKS AND BUSY WAREHOUSES—



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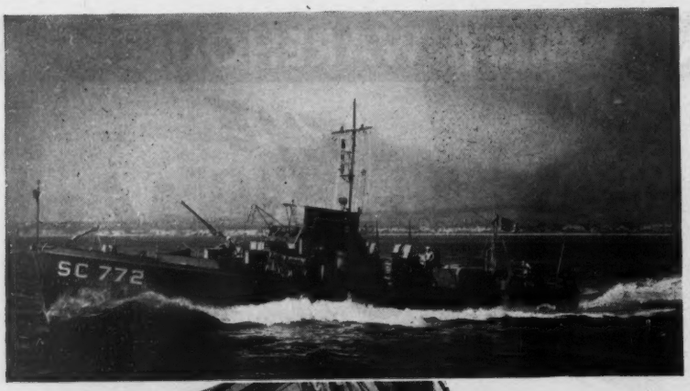
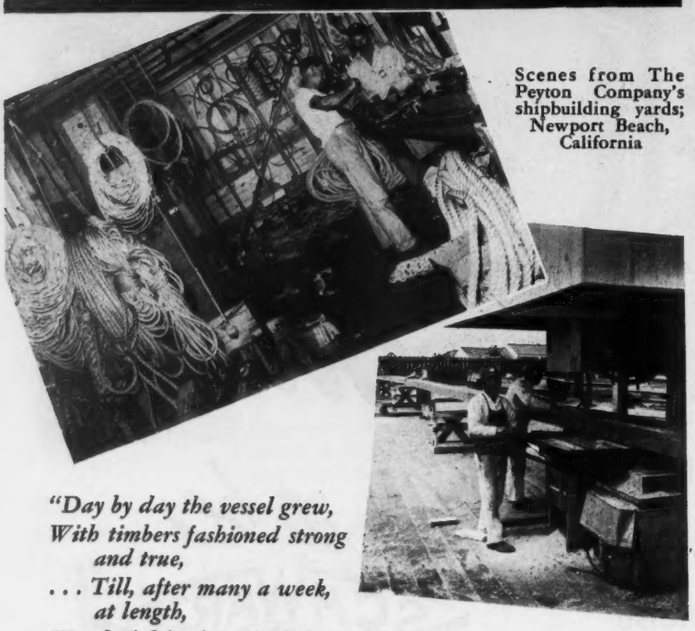




Scenes from The Peyton Company's shipbuilding yards; Newport Beach, California

"Day by day the vessel grew,
With timbers fashioned strong and true,
. . . Till, after many a week, at length,
Wonderful for form and strength,
Sublime in its enormous bulk,
Loomed aloft the shadowy hulk!"

— Longfellow's "Building of the Ship"

There's a thrill in watching a ship take its form . . . in each of the various steps . . . from the preliminary sketches to the finished product. And, even greater will be the thrill, after the war is won, of watching your own pleasure craft take its shape, and slide into the water, affording you hours of pleasure that you are earning today.

Your continued purchase of War Bonds and Stamps helps make possible the building of today's victory ships. These same bonds will help purchase your own craft . . . after the battle is won.

★

We welcome those who are interested in post-war boats, both for pleasure and commercial uses.

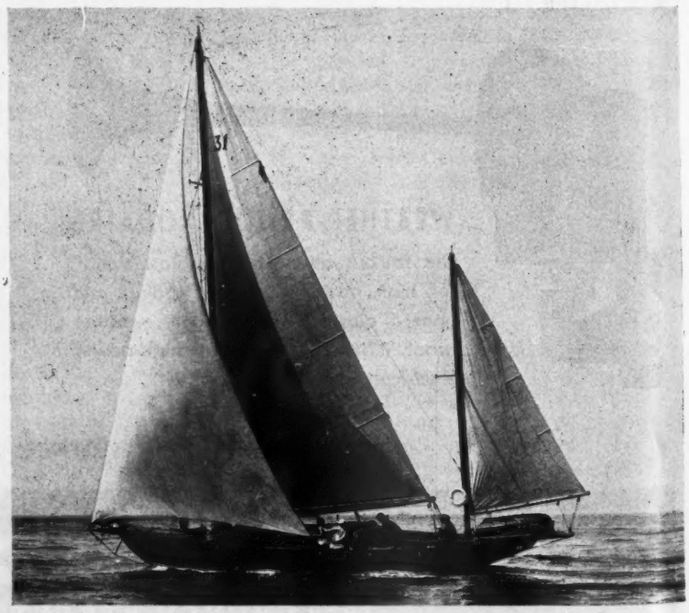
THE PEYTON COMPANY
BOAT BUILDERS ★ NEWPORT BEACH, CALIFORNIA

"Malabar X," John Alden's development of this type, retained the gaff rig. She won the 1932 Bermuda Race

The 1934 race saw seven more new yachts built for long distance racing, and the fleet of twenty-nine starters was very "high class" and composed mostly of yachts built for events such as these — all strictly of modern design. Perhaps the most outstanding in point of view of design were the *Vamarie*, a 70-foot ketch designed by Cox & Stevens with a wishbone mainstaysail rig that caused a lot of comment (favorable and unfavorable), the *Namsang*, a ketch by Frank Paine (designer of the record-breaking *Highland Light*), and a new yawl by Olin Stephens, the *Stormy Weather*, that was destined to make a great name for herself in long distance racing. She had many of the fine qualities of *Dorade*, but was wider (and perhaps more comfortable), due to the dictates of the new rule.

This race was also sailed in fast time, *Vamarie*, which finished first, taking only 3 days 3 hours, 33 minutes to sail the course, which was twenty-five miles longer than that sailed by *Highland Light* two years before. Also, eight boats covered the 650 miles in less than eighty hours. But *Vamarie* could not save her time and the *Edlu*, a medium sized cutter by Sparkman & Stephens, won in Class A, while a fresh water boat, the little cutter *Baccarat*, designed by Russell Pouliot and winner in the previous Detroit-Mackinac race, won in the smaller Class B. The little *Dorade*, at whom the new rule was largely aimed, nevertheless finished fifth in a fleet of twenty-nine.

The corrected times under the new rule did not work out closely and, in the first twelve boats to finish, the spread on corrected times was greater than in actual times. Some of this was because the rule severely penalized boats with certain undesirable (so thought) features, and some of it, of



In "Ayesha," Phil Rhodes turned out a good-looking and fast boat which had a successful career

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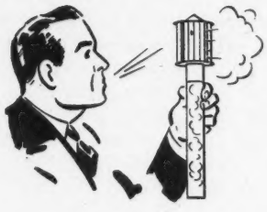
The experts were dumbfounded...

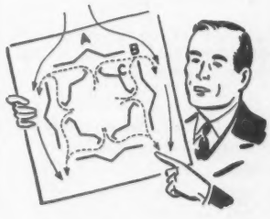
when they saw what this new and different ventilator can do!

It didn't look like an ordinary ventilator, so they said it couldn't do the job. But the Breidert Marine Air-X-Hauster proved that with no fans ...no moving parts...no adjustments...*it provided positive ventilation no matter which way the wind blew.* It succeeds where other ventilators fail!

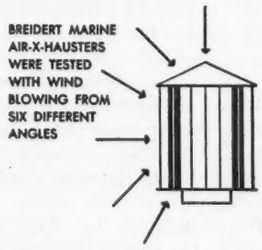
Now used on many Navy vessels



USES ONE OF NATURE'S LAWS... The design utilizes the principle that air always rushes in to fill a vacuum. Wind currents striking the ventilator create a vacuum which causes stale air to be sucked out.



SIMPLE, BUT EFFECTIVE... Plan of Breidert Marine Air-X-Hauster. Wind strikes V-shaped faces (A) and is deflected away and across outlet openings (B), creating suction action. Inner baffles (C) repeat this action regardless of which direction wind comes from.



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WHEREVER THERE IS A VENTILATING JOB TO DO... It can be installed above deck or in portholes. Thousands are in use on troop transports, hospital ships, cargo vessels and boats of all types and sizes. It is waterproof and light-tight.

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WEEMS SYSTEM OF NAVIGATION, ANNAPOLIS, MARYLAND
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course, was due to the weather conditions and the handling the boats received. As a rule, the boats built to rate low in their classes did the best, and the larger boats, which finished well up, did not have a look-in. But the race did teach many things, both to the rule makers and to the designers.

(To be continued)

RUBBER NAVIGATION FOR RUBBER LIFE BOATS

(Continued from page 27)

of the handle to the star at the lip of the bowl. This is 26°. The distance between the two stars in the bowl known as the Pointers (for the reason that a line joining them passes close to the North Star), is another convenient yardstick. This is 5°. The Belt of the constellation Orion, which almost everyone recognizes in the skies, is 3° wide. Thus, even without any instruments whatever, one could judge after several days afloat whether he were drifting south or drifting north by the changing altitude of the pole star. Instances are on record during the last few years of emergency flying when airplanes headed south have overshot their mark by more than 600 miles without the pilot apparently being aware of an incorrectly estimated tailwind; 600 nautical miles is 10° change in latitude. This means that the Pole Star must have appeared 10° lower than it should have appeared were the plane at its supposed destination. Even inexperienced watchers of the skies with the smallest amount of practice could detect half of this with the naked eye. It pays to be skywise.

Of course, to know one's latitude is only half the story. It may give a castaway a small satisfaction to know what parallel he is on. Even if he doesn't know how far he is east or west of the next landfall, he still would know whether the land lay to the north or south of him. In the old days, before the chronometer was invented, mariners had little other choice in crossing the Atlantic than to make for the parallel of latitude that included their destination and then make the westing until the lookout sighted land.

To get any idea of longitude without full navigating equipment is somewhat of a problem. As everyone knows, longitude is the difference in time at ship and the corresponding Greenwich time (Fig. 7). Without tables or sextant or other means for determining local hour angle, even a rubber raft occupant can tell approximately when it is local noon by the fact that the sun has attained the meridian when it has reached its maximum altitude above the horizon. If then one could only call up London and find out what time it is by Big Ben, he would at least know his general whereabouts so far as his east-and-west position on the open ocean is concerned. Of course, if one has salvaged a waterproof watch on the liferaft, he has won half the battle of longitude. If the watch is reasonably correct at the outset, a good watch can be trusted for but a few seconds error in several weeks. If one is uncertain of his watch error by even a half-minute, the craft will not be more than seven miles off in longitude on account of this alone. If the watch were running on any known standard time, then the time indicated by the watch when the sun is on the meridian is a rough approximation of the longitude from the standard meridian of the watch. This is easily reduced to Greenwich time. If the watch reads past noon at Greenwich, when it is local noon on the raft, then the longitude is west of Greenwich. If the watch reads before noon on Greenwich time, when the sun reaches the meridian, then the strayed navigator is east of Greenwich. This follows the old salt's saying, "Longitude west, Greenwich time best; Longitude east, Greenwich time least" — time being considered as increasing from sunrise to sunset. If one knew the approximate value of the equation of time, the application of this to the Greenwich time would help some. Even so, longitude by this crude method would probably involve an uncertainty of a hundred miles or so due to the difficulty of establishing the time of local noon within 20 minutes.

If no watch were salvaged, the situation is bad. This is where some waterproof radio should be a part of the rubber life boat equipment. It might be possible to contrive a waterproof crystal receiving set that would

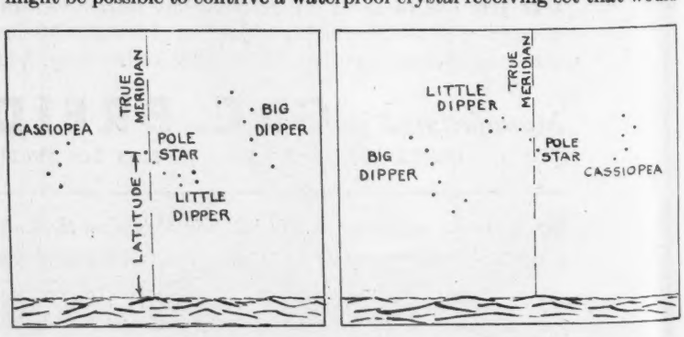

Fig. 6. Two positions of the circumpolar constellations when the altitude of the pole star is the same as the altitude of the true pole

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work entirely without batteries, and thus be available no matter how many weeks or months it might have been stowed in the collapsible boat. With such an outfit, one would certainly have to have an antenna wire that could be sent up by balloon or kite to bring in any distant time signals. But there presumably would be plenty of play time for such riggings.

Speaking of a radio, this leads me to mention the rather ingenious lady that in the near future may become the permanent occupant of every life raft. Her name is the Gibson Girl. If seeing is believing, she takes her name from the shapely hourglass form so characteristic of Gibson models at their best in the 1890's. The reason for building a radio apparatus with a constricted waist line should appeal to sailors, for the designers arrived at it advisedly. This radio box with its constricted midship section is held firmly between the knees of the would-be operator. Because of its shape, it is remarkably stable, leaving the right hand free to work the crank that generates the electricity for operating the radio. The left hand is then available for turning dials or flying the kite that carries aloft the antenna. Miss Gibson is so well trained that if the sailor doesn't know the Morse Code for SOS, she will send it out automatically. The inventors of this Gibson Girl foresaw the catastrophe of a life raft being becalmed and no friendly breeze available for lifting the kite with its dangling antenna. A rubber balloon accompanies the apparatus which can be filled with hydrogen gas with the aid of a chemical pill mixed with sea water. Such a device, while sending out a call for help with all the plaintiveness that Miss Gibson can express, could also be used for receiving time signals. If the operator knows any Morse Code at all, it might be helpful for some would-be rescuer to learn the latitude and longitude of the derelict airman. Even a probable error of a half degree means an uncertainty of only 30 miles.

All these primitive directions for determining latitude and longitude could be printed on a waterproof card or on the back of the map designed not to sink if it falls overboard. The important point is that navigation for the purposes for which this article is written can be done extremely crudely from the point of view of those who are used to navigating yachts to Bermuda and working sights to seconds of arc.

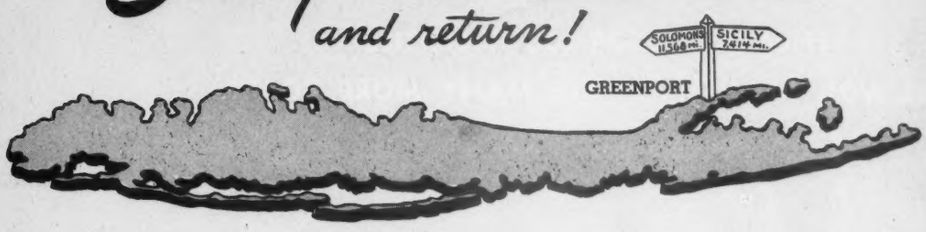
To see a life raft from the rail or even the bridge of a friendly rescue ship is a far more difficult proposition than sighting a life raft from an airplane aloft. As everyone knows, the range of vision increases enormously with height above sea level. The distance in nautical miles at which objects floating in the water can just be seen on account of the curvature of the earth is very nearly the square root of the height of the observer in feet above sea level. Standing at the rail of a small boat where the height of the eye is 9 feet, the range of vision is but three miles. Flying at an altitude of 10,000 feet, the range of vision is 100 miles. To spot a tiny raft bobbing amid the whitecaps from a plane 10,000 feet high, however, involves more than this theoretical range of vision. It is for this reason that the raft could probably be more easily picked up at night, assuming that flares or a waterproof flashlight are available for signaling. These two should be in every life raft. However, if the Gibson Girl is aboard, she has an attachment whereby, on cranking the generator, she can wink at overflying planes with all the coquettishness of a firefly. There are, of course, on the market battery-less flashlights which can be lighted by a motion of the thumb or small wheel which works an internal generator. These, too, could be made of plastic and remain waterproof.

With the large amount of air traffic over the oceans incident to the war, accidents are inevitable. After the war is over, when trans-oceanic clippers fly between the continents as Pennsylvania Limiteds shuttle between New York and Philadelphia, there will be an insistent demand for rubber life boats and emergency equipment. For minimum weight and storage capacity, these collapsible rafts cannot be loaded with the bulky equipment of the life boats of an ocean liner. If necessity is the mother of invention, then navigational devices for rubber life raft emergencies will be arriving forthwith. The age of plastics will be a boon in this particular.

As we have pointed out in this article, high accuracy is not essential. A small sextant could be devised in a hollow watertight container with which one could measure the altitude of the sun, certainly within one-quarter of a degree and know one's position within fifteen miles. Navigation under such circumstances reduces itself to the simplest terms. Index error, refraction, parallax and laborious interpolation of tables could all be forgotten. A small booklet or even the back of the chart could carry all the needed data, directions and brief tables or a graph from which, without previous training, any normal person could within a few hours learn to find his position. We will assume that a reasonably good timepiece is aboard. The entire equipment need not weigh more than three or four pounds and, exclusive of the watch and radio, the cost need not exceed 25 or 30 dollars.

While the uncertainties of the position determined by these rather crude methods of navigation might have to be interpreted with the elasticity of rubber, the limits of the elasticity allowed are really not excessive. Possibly, since the recommendations here are for gadgets of plastic, the title of this article might better have been chosen as "Plastic Navigation."

Sicily . . the Solomons and return!



It's 7414 miles from Greenport to Sicily; 11,568 to the Solomons. For obvious reasons we cannot divulge the number of Greenport-built tank lighter landing craft that have left this yard to effect landings on far away beach heads but we can tell you that we're turning out these little ships of steel almost as fast as your mother used to make biscuits. Nor can we give the number of Greenport-built YMS's that are sweeping mines from far-off seas, except to say that there are *plenty!*

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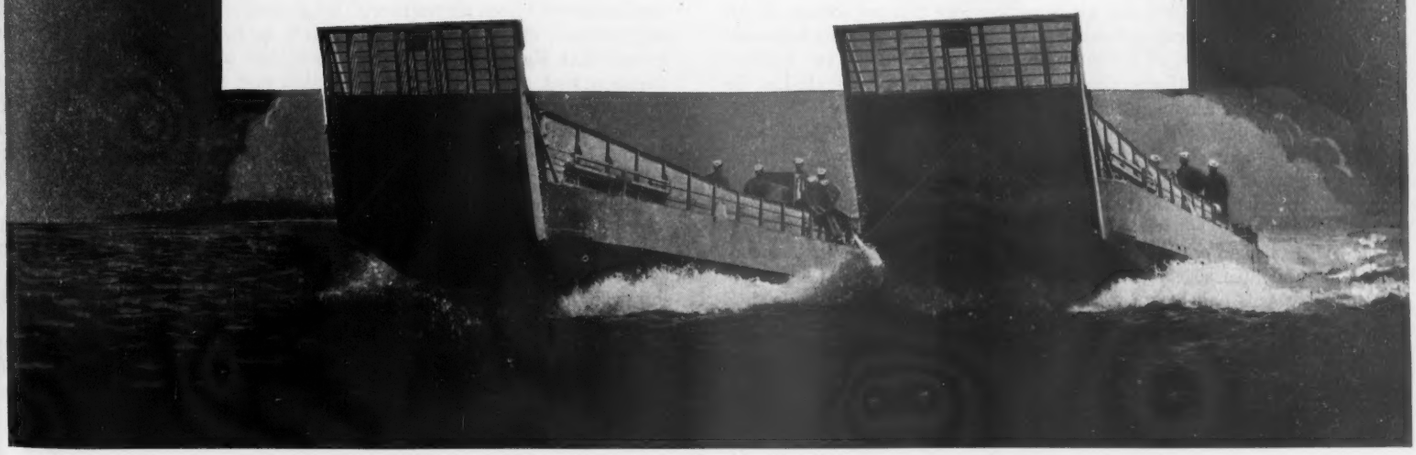

THE VOYAGE OF THE "TONQUIN"

(Continued from page 32)

Even Thorn seems to have felt by this time that something was amiss. There was scarcely room to move about on deck. Somehow in the excitement almost 200 Indians had crowded aboard. Besides, the furs already obtained were a rich enough haul for anyone. Thorn sent five men aloft to loose sail and had the capstan manned. Then, in a stentorian bellow, he ordered the ship cleared.

The Indians raised an answering yell of their own. Evidently it was a prearranged signal. Knives flashed from concealment, war clubs were broken out of bundles of furs. In an instant, the deck of the *Tonquin* was an indescribable welter of confusion and carnage.

James Lewis, the ineffectual ex-schoolmaster who had been checking accounts for the captain, was among the first to fall, stabbed from behind and pitching over a bale of blankets. Alexander McKay dragged out his pistols and shot one Indian before he was stunned by a glancing blow from a war club. He was thrown over the rail, where the women finished him with their paddles as he floundered in the water. Most of the sailors were unarmed and were slaughtered like sheep by the yelling Kwakiutls.

Captain Jonathan Thorn defended himself with great energy and courage, his shoulders hunched and his muscular legs planted solidly on his quarterdeck, his only weapon the clasp knife gripped in a rarely hard and competent fist. He stood off a small mob of assailants, felling two Indians and wounding several others. Bleeding from a score of knife slashes, he went down under sheer weight of numbers.

The five men aloft tried to slip unnoticed down the steerage hatchway. Four of them made it. The last — Kasiascall thought he was Stephen Weeks, the armorer — caught the eye of one of the Indians. A sweeping blow from the savage's knife wounded him severely. He lost his hold on the hatch coaming and went hurtling down onto his shipmates below.

The melee on the *Tonquin's* deck went on for perhaps ten minutes longer. From the canoe, Kasiascall looked back at the ship still riding at anchor, a couple of her sails half loosed from the gaskets and slatting untidily, her decks swarming with triumphantly howling, blood-smeared Kwakiutls.

One moment she was there. The next moment she was not. There was nothing but smoke, mushrooming blackly into the air. The forests around Nootka rocked with the hollow concussion of the explosion. All the gunpowder in the hold, four and a half tons of it, had let go at once.

This was Kasiascall's story. Illness, he said, had kept him from coming to Astoria sooner. As nearly as he could fix the time of the disaster, it had happened about twenty-four days after the *Tonquin* left the Columbia, approximately June 30th.

The ship and everything in her had been blown almost literally into powder. The waters of Nootka harbor and the shores for hundreds of yards around were littered with grisly bits of human anatomy. Kasiascall estimated that 175 Indians were killed by the explosion. Of the ship herself, there was left not a block or timber worth salvaging.

The disaster, of a size and kind without parallel in the experience of any Indian on the coast, left Newity a very badly shaken community. Not a redskin in the neighborhood could be induced to go anywhere near any of the next two or three vessels to put in at Nootka.

Kasiascall, by his own account, could hardly have known what caused the explosion. He said, rather inexplicably, that Weeks must have done it. It was assumed that the armorer, gravely wounded and perhaps believing himself fatally wounded, had crawled into the hold and taken a bloody revenge by setting a match to the powder. This explanation doubtless did as well as another, except that it left out of consideration the four sailors who had also escaped below.

The story of the *Tonquin* was received with consternation at Astoria, but no one saw any reason to doubt any part of it. Several days later, some more Indians arrived from the north with a different version of the affair. According to them, everything happened much as Kasiascall had described it, except that Kasiascall himself had not been aboard the ship when the massacre took place. On the contrary, they said, he had originated the plan to kill all the white men and seize the *Tonquin*. This was done and the ship partly looted that afternoon. A boat's crew of six men, sent ashore earlier in the day on some pretext urged by Kasiascall, were put to death by torture in the evening. Sometime during the night it was thought that some men concealed below decks had made their escape in one of the boats, for the sound of oars in rowlocks had been heard. Next day, the Indians went aboard again in great numbers, tempted to further looting by a vague figure which raised itself from the deck and made beckoning motions. When the ship was thoroughly crowded with Indians, the number this time was put between 200 and 300, the explosion occurred.

This version of the story admitted the further possibility that the sailors who escaped by boat had laid a slow train to the powder before pushing off. If so, they got results out of all proportion to what might have been counted on. If any men did get away they were never heard of again.

JOHN PAUL JONES got a *kick* from a musket

John Paul Jones was a hard-boiled sailorman . . . with a sailorman's lusty sense of humor.

He commanded, during the early years of the Revolution, a light, fast, single-masted sloop, the *Providence.* His task was to harass shipping in the Channel, but his orders didn't cover his strange encounter with the 32-gun frigate, *Milford.* Jones came across the cumbersome *Milford* on a bright breezy day. He tacked across her bows, saw she was slow, and spent the balance of the day tempting the enemy to waste broadside after costly broadside. To each blast of shot, Jones replied with a single bullet from the musket of a Marine . . . while his crew rolled with laughter in the scuppers.

The story doesn't prove much, except that Americans have a talent for making light work of mighty important tasks. The men who have volunteered to serve in our vital U. S. Coast Guard Temporary Reserve, are getting a lot of pleasure and satisfaction from the job, and you can share it. Offer your boat and your services to the Coast Guard or Navy. Keep your equipment shipshape, and remember, War Bonds will speed the return of pleasure cruising.

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Then there was that beckoning figure which showed itself briefly on board, a figure so hazily described in the contemporary accounts that it may have existed only in imagination. This has been variously identified as Stephen Weeks and as James Lewis, though without much reason in either case. If it were Weeks, he would have needed to be a man of desperate and rather theatrical temperament. We are required to assume that he remained behind deliberately when his shipmates escaped in order to accomplish the death of as many Indians as possible.

There is always the possibility that James Lewis, or any other man left for dead on deck, may have recovered consciousness next day and, realizing the hopelessness of his own situation, have taken this extraordinary method of assuring himself plenty of company on his journey to the next world. Of all those in the *Tonquin*, Captain Jonathan Thorn himself seems the man who had the will for such a deed.

The second version of the story, which puts the explosion the day after the massacre, seems on the whole rather more fantastic than the first. Kasiascall lent some color to it, and to the charges against him, by clearing out of Astoria hastily when he learned that the other Indians were coming.

The destruction of the *Tonquin* was a crippling blow to the enterprise which had begun so fairly, involving as it did the loss of a heavy capital investment and the revenue from at least a year's work. It was not recognized at once as a crushing blow. The project limped along for another year or two until Astor, discouraged by bad luck and faced with the realities of war, sold out to the Northwest Company.

Two British warships appeared one morning in the Columbia, meaning to reduce the fort by gunfire and demand its surrender. Their officers were disappointed, for the job looked easy and their dreams of prize money had been alluring, to find the Union Jack already fluttering over the wooden stockade of Fort Astoria.

THE END

"ICE DEAD AHEAD!"

(Continued from page 33)

falling ice and the howling wind, together with a ghastly, moaning sound coming from the berg, was weird in the extreme. There was nothing the crew could do but stand by and watch until the ship freed herself.

Immediately she cleared the berg, the Skipper gave orders to sound the wells. I was ordered to the lazarette. Accompanied by the ship's carpenter, an old Scotchman of 70, I went below and we commenced sounding. All the time old "Chips" kept alternately cursing and praying in the dark. I found a lantern and managed to light it. With its aid, and to our intense relief, we found the ship was not making any water, in this section at any rate, but it took us two long hours to discover this to the satisfaction of the First Mate. When we came on deck to give our report, we learned that a "dry ship" had been reported by the men who had been told off to sound the other wells.

Assured that his ship was not making any water, the Skipper called all hands aft to the break of the poop where a couple of lanterns had been hung up, giving enough light to make darkness visible. "Bring your pannikins with you," he roared, "and you'll get an extra tot of rum. God knows you need it!"

The crew came tumbling aft. They all looked badly shaken. Some of them were laughing too loud to appear natural, while others stood by looking badly scared. The boatswain's head was bound up with an old rag through which blood was oozing. He had been knocked out by a chunk of falling ice. Another of the crew, a Negro, had his arm in a sling of rope. His collarbone had been broken. He had been standing beside the boatswain, and had seen him hit by the falling ice. He had stood over him as he lay on deck, trying to shield him, when he, too, was felled. My hands were shaking as I held out my pannikin for my tot of rum, and the pit of my stomach felt as though I had a lump of ice in it. I certainly was scared. I gulped down the rum and it pulled me together. Never have I needed or enjoyed a drink more than that rum.

The Skipper then gave orders to make fast, as best we could, any loose gear that had come adrift, and that all hands were to stand by until daylight when needed repairs could be made.

It was not until then that we were able to see what damage the ship had suffered. We found she had struck amidships opposite the starboard main rigging, and the paint on the starboard side of the hull had been scraped clean off, right away aft, where there was a deep indentation doubtless caused by one of the projecting pieces of ice. The starboard rigging was torn and carried away in several places, and she had a list to port caused by the cargo shifting. One of the starboard lifeboats was smashed to matchwood, and the main deck was littered with broken ice.

We soon cleaned ship and continued our voyage round Cape Horn without any further mishap.

Today, rum is my favorite drink and the only ice I ever want to see is in a long glass — plus, of course, the usual trimmings.

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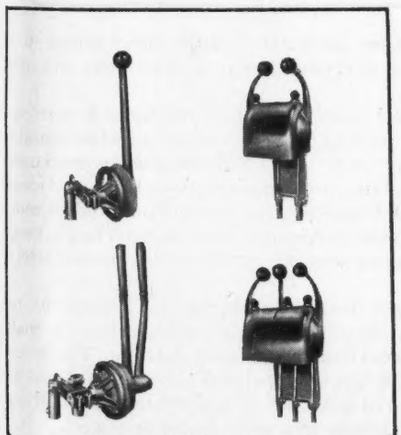

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Sound Construction. Take this gasoline tank, for example. All-welded to prevent leaks . . . extra heavy . . . designed to underwriter's specifications. The long filler pipe, extending to the bottom, prevents overflow except through safety air-vent outside hull. Engine draws fuel from top of the tank, preventing sediment in the gas line. Unusual care? No, just typical Owens construction.

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OWENS YACHT COMPANY, DUNDALK, BALTIMORE, MD.

Speed Victory . . .

BUY U.S. WAR BONDS AND STAMPS

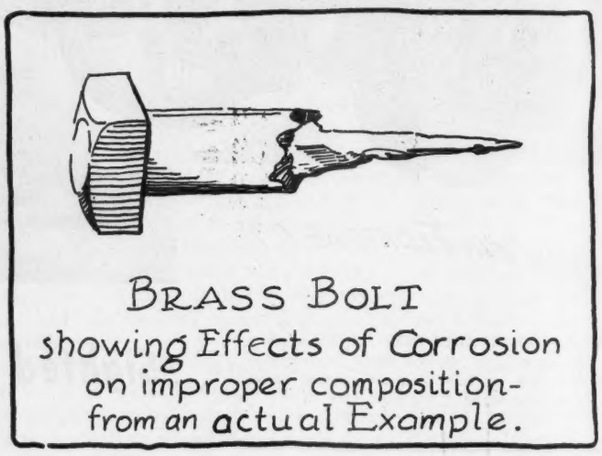
"OF SHIPS, AND SHOES, AND SEALING WAX"

(Continued from page 54)

the average of from 66,000 lbs. to 75,000 lbs. per square inch of area, according to quality. Stainless steel in wire form has a tensile strength of 260,000 to 300,000 lbs. per square inch of metal area. In a testing laboratory I have seen chain break at 23½ per cent below its rated strength, but in testing stainless wire rope I have never seen it break below its rated strength. Shackles, swivels, turnbuckles, eyebolts, hooks, etc., are drop forgings, and the steel used is about 68,000 to 72,000 lbs. tensile strength. When it comes to hooks, they will straighten out before breaking and, in hook-and-eye turnbuckles, the eye end is between two and three times the strength of the hook end. The eye end breaks in the thread of the shank. This should be taken into consideration, especially in backstays. I have known of more than one case of hooks on blocks straightening out and causing considerable damage. There are, of course, especially designed hooks for this purpose.

When we get to castings, then everything changes. I find cast iron rated at 20,000 tensile strength and cast iron, malleable, at 35,000. I have been told that cast stainless steel of the proper analysis will go as high as 94,000. Cast stainless is also malleable and not subject to electrolysis with other metals — always, of course, if it has the proper composition. In the brass and bronze field, we can start with a good brass casting of about 22,000 tensile strength and run up to manganese bronze at about 65,000, and beryllium bronze at 'way above that. Take the trouble to know what you get.

According to their analyses, brass and bronze castings are more or less subject to crystallization and electrolysis. Little zinc should be part of their composition around salt water. What is referred to as "Naval bronze" is intended to be 88 per cent copper, 10 per cent tin and 2 per cent zinc. Most all brasses in the rod or sheet form have a high zinc content and are better kept away from salt water. So should iron or aluminum be. If you see



castings pitted when used under salt water, it is the alloys eating out of the copper. This is the cause of crystallization in brass bolts and other fastenings.

Stainless steel, of the correct analysis, has high resistance to corrosion, does not crystallize, has high ductility, and is non-magnetic when annealed. This is usually referred to as "18–8." Practically no action goes on under salt water between "18–8" and zinc, iron, brass or copper. It is a good idea to take these tensile strengths and qualities into consideration when it comes to fittings like chain plates, rudder gudgeons and straps, mast bands, tangs, travelers and any fitting requiring strength. And don't use just any steel or iron, or any brass or bronze.

Little is said or has been said about wrought iron, and I mean *iron*, not steel. In years past the Lighthouse Bureau had a specification for chain, shackles, swivels, etc., that called for a certain analysis of iron. The Bureau got it, because every shipment was analyzed and refused it if it was not right. Why was this gone into so carefully? It was because pure iron does not rust as fast as steel, and because iron welds better than steel.

Let's look at a few examples. Where is there a *steel* vessel that was built in 1883 and is still in service? Without looking it up, I'll venture there isn't any, but there is an *iron* ship, the *Tusitala*, now a training ship. I saw the table of her drillings from stem to stern, made by Lloyds, when she was reclassified about 1921 and they didn't vary a thirty-second of an inch. Then there was the old iron ship that had been driven ashore down in the Gulf about 23 years before the last war. She was examined, found to be in good condition, was dredged out of her sandy bed, and reconditioned. They didn't even have to use a chipping hammer — just a three-cornered scraper. That was some iron!

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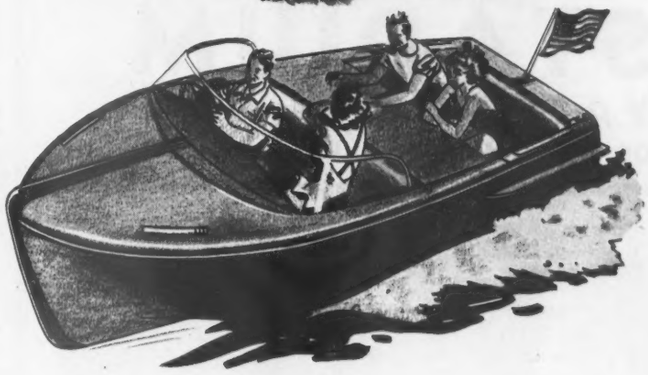

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Then there is that matter of inside ballast. The first little yacht I had built had to have inside ballast, and I had to pump rusty bilge water the first year. However, I had noticed that zinc would deposit (or plate) across from zinc coated iron or steel to iron that was not coated, provided there was salt water to create the current and carry the zinc. So the second year I put all through my ballast as much sheet zinc as I could find, old or new, and cut it up in pieces so as to get as many contacts as possible. Believe it or not, I pumped no rusty bilge water that year, and I took my ballast out reasonably clean in the fall. I wouldn't advise this if there is any exposed brass or bronze in the bilge because it would start a fight, but for an iron-fastened boat, with any fittings made of copper composition above the bilge water level, it certainly does the trick. And — never ground a wire that will ever have any electric current in it on any brass or bronze that goes through the hull. In one Bermuda race there was about $450 worth of damage done to bronze under water, after a radio was grounded on a toilet fitting.

I guess that's a good place to stop.

GET THAT PILOT!

(Continued from page 21)

The fifth week begins a polishing process and the sixth week brings an actual cruise in the Gulf of Mexico, during which sea problems test the practical value of this theoretical training. The sea problems, with written examinations every two weeks using the grading system of the Naval Academy with 4.0 being a perfect grade, determine assignments. Men with a 3.2 or better grade attend a three weeks' advanced course from which students are selected as candidates for warrant or commissioned officer appointments, the school having its own Warrant Officer Board, Maritime. Men below the grade of 3.2 are assigned to rescue boat crews in an advanced enlisted status.

The course is military throughout, comprising both Army and boat training. Subjects for the first two weeks include seamanship, military drill, knots and lashings, and boat nomenclature. The third and fourth weeks bring instruction in gasoline and Diesel engine operation, small boat navigation, plotting courses and navigation problems. In the fifth and sixth weeks, the sailor students get sea problems on daytime and night runs, celestial navigation, position finding at sea, refueling, patrol problems, establishing a rescue base, and engine repair. The operational training problems, which start the seventh week of school, include more advanced subjects. Instruction in gunnery tops off the combat training.

An indication of the school's potential worth is confirmed by a statement recently made by one of its officers: "In addition to filling a definite war need, the school is also building a tremendous interest in boating for post-war use. Hundreds of men who heretofore were only mildly interested in boating now will make it a vigorous hobby if not a career. From the enthusiasm and application put forth by the students of the school, it is felt that the graduating classes which have been asigned to crews will give a good account of themselves on active duty on widely scattered stations."

The AAF's First Air Force, commanded by Major General Ralph Royce, which has jurisdiction over a large part of the Atlantic seaboard, is also operating a crash boat training center at Bar Harbor, Maine. Actually, this is a special school maintained by the Navy but arrangements have been made which permit the inclusion of Army crash boat personnel. Established for the instruction of officers and selected enlisted men, the course includes one month's work in seamanship and a two months' course in navigation. In the future, this course will be a "must item" for masters and mates of crash boats assigned to the First Air Force area, as this unit requires that such officers be competent navigators.

The operating personnel of the boat service is provided by the Quartermaster Boat Company (Aviation). A platoon of this company is assigned

A 42-foot Army Air Force crash boat in action. This type is built by Owens, Chris-Craft, Dodge and others. Official U. S. Army Air Force photo

Off to sea with a bone in her teeth! This sleek 63-foot Navy crash boat, from the yard of the Harbor Boat Building Co., is as fast as she looks. Kent Hitchcock photo

to each air base at which rescue boats are stationed. The crew, which is defined as "a crew of sufficient strength to provide for a 24-hour operation of the size of boats indicated," constitutes sections of the platoon. A 104′ boat, for example, has a crew of three watches consisting of two officers (master and chief engineer), and four warrant officers (first and second mate, first and second assistant engineer). The enlisted crew consists of a total of 19 men.

The bases themselves, which are usually located as close to the flying field as is practicable, are models of nautical efficiency. They include docks and the necessary shore establishments which, though simple, are sufficient to serve not only as a headquarters but as a depot for necessary parts and gear. Minor repairs and maintenance are the responsibility of the crew of each boat, but the major repair jobs, which require the removal of the boat from the water or the engine from the boat, are the responsibility of the Transportation Corps and are performed by the nearest facility available, military, naval or civilian.

Previously, there were many different Army crash boat types, ranging in size from 22′ to 104′, and including a swamp glider designed for use in marshy areas. This glider has a special airplane propeller in the stern which enables her to skid safely over the top of the marshes to the spot where a plane has been forced down. Smallest of these earlier models is a 22′ shallow draft speed boat, which may be handled by a crew of one or two. She was designed primarily for use in shallow water where the extent of operations does not call for a larger craft. The 42-footer has been the standard for operations on rivers and lakes within the continental United States and for inshore patrol, and is equipped for ship-to-shore communication. The 83′ boat is intended for seagoing rescue work as is the 104-footer.

These large boats, which are normally assigned to airdromes adjacent to the sea, can patrol 500 miles out to sea for a week or ten days at a time. They are built for speed but are sturdy enough to operate in foul weather. When a number of aircraft are engaged in flights over designated sea areas in gunnery practice, antiaircraft target towing or similar missions, these rescue boats are assigned stand-by missions.

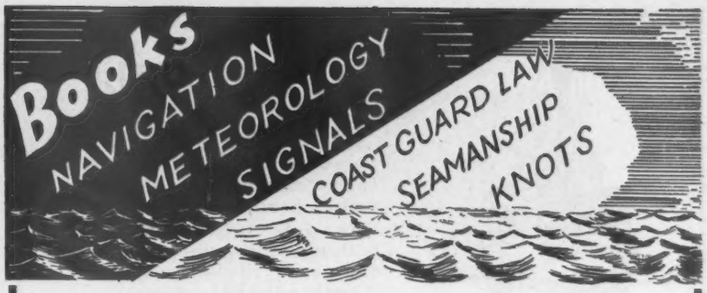
On board are comfortable quarters for the crew, a galley equipped with an electric stove and refrigerator, and a sick bay staffed by a medical technician and equipped with a special elevator which handles litter cases. Ship-to-shore, ship-to-ship and ship-to-plane communication equipment keeps them in constant touch with the shore base, searching aircraft and other rescue craft. In addition, blinker, semaphore, flag hoists and an emergency radio set are available for communication when needed.

Each member of the crew has a job to perform when a rescue is made. The vessel proceeds to the scene at full speed and maneuvers to the position required. The crew is on the alert at the rescue station and, in hostile waters, the gunners stand at battle stations. Rescue nets, rubber suits, crash tools, asbestos suits, fire-fighting equipment and a small dinghy with an outboard motor are available for use. The injured are moved in special type litters to the dispensary where the surgical technician applies splints, dresses wounds, treats shock cases and makes them as comfortable as possible while the rescue boat proceeds to her base where they can be transferred to a hospital. Those who have escaped injury are provided with water, food, coffee and warm clothing.

In addition to playing the rôle of Good Samaritan to pilots in distress, these are fighting ships, too. They carry enough armament to protect themselves against any attack that might be made on them by aircraft, and they also pack a punch for use under certain circumstances in combat areas.

Within recent months, the AAF has standardized on four new boat types, which from now on will be the basic vessels of the Army's crash boat service. Heretofore there have been eighteen different types.

The first of these is the 85′ high speed PT type which in appearance resembles the Navy's 63′ crash boat. Her water line length is 78′10″. Powered with two Packards in addition to two Chrysler cruising motors, this craft has a top speed of 40 m.p.h. Her cruising speed is 28 m.p.h. and her cruising



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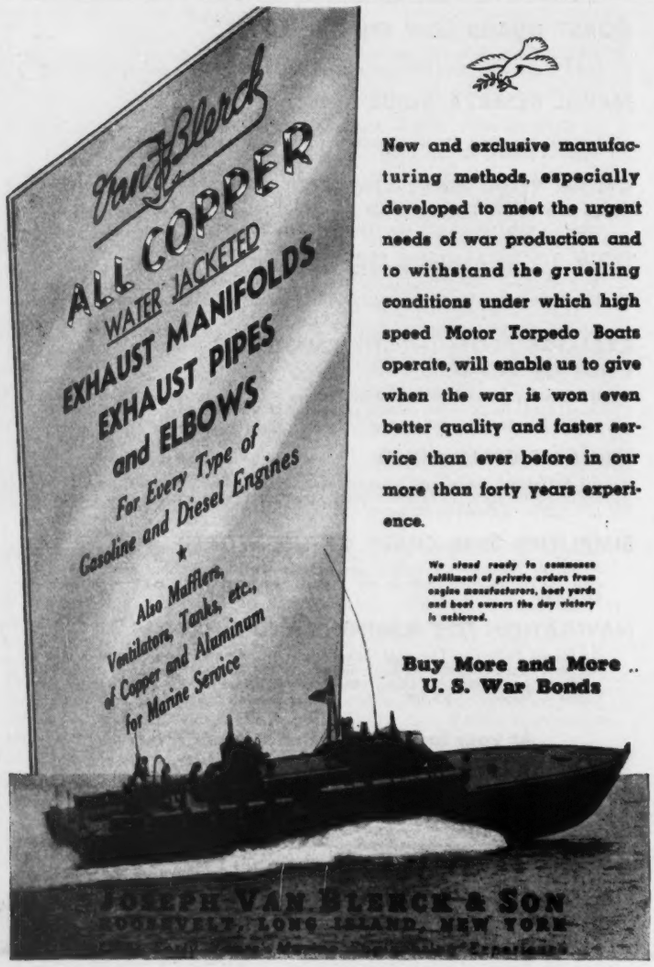

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Seconds count when a plane is down at sea, and the Navy's 63-footers are designed to get to the scene of the crash in a hurry. Fellows & Stewart, Inc., are building many craft such as this. Kent Hitchcock photo

range is 2,500 miles at 10 knots, thereby enabling her to make any ocean crossing. The second standard type is a 42-footer which in appearance is almost identical to the larger boat. Powered with Hall-Scott Invaders, her speed is 35 m.p.h. The third type is a 27-footer which draws but 14″ of water, is capable of from 40 to 50 m.p.h. and carries four persons. Experimental construction is also being made with a 38-footer. The last of these four basic models are various types of swamp gliders.

Both the 85′ and 42′ boats are fitted with fire-fighting equipment.

\+ + +

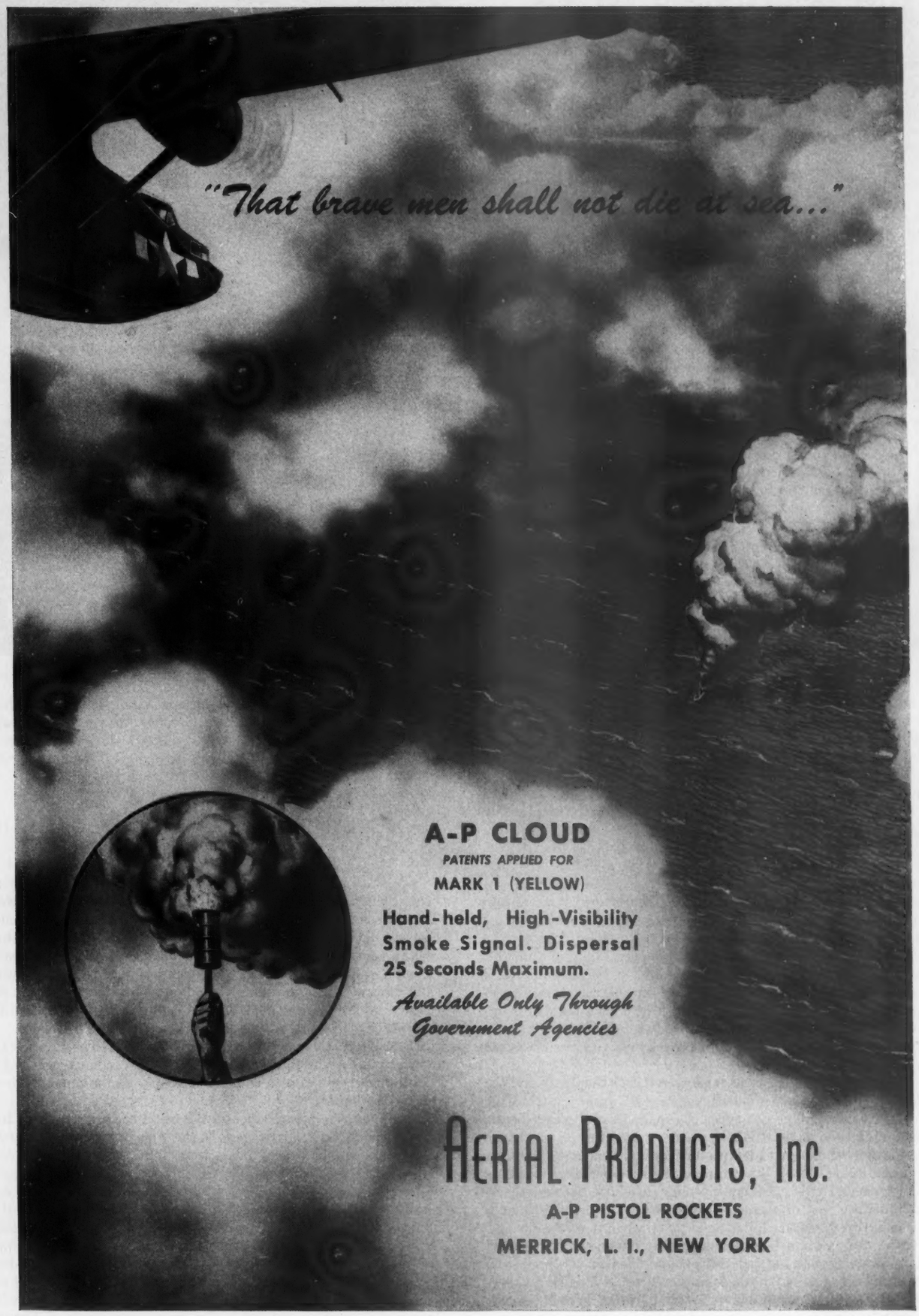
The need for suitable fast rescue vessels arose practically at the moment the Navy received its first airplane. During World War I, a sea sled type of boat was used at Pensacola and other Navy aviation training centers. These boats had inverted V-bottoms, surface propellers, and were capable of making approximately 40 m.p.h. Due to the arrested development of naval aviation in the early post-war period, these boats were not replaced for many years. About 1926, however, the need for replacement became so acute at Pensacola that a Thornycroft coastal motor boat was transferred from San Diego, rebuilt, and powered with a marine conversion of a Liberty engine.

Recommendations were requested from all bases and fleet activities for desirable features in boats purchased for crash rescue work. At the same time, a general estimate of crash boat needs was started. These studies revealed an urgent need for such boats at many stations. To alleviate the pressing need during the working out of satisfactory features, eight 26′ Dodge runabouts, having a speed of 39 m.p.h., were purchased in 1929. In 1930, four Dart 26′ stock runabouts of about the same speed were added.

Meanwhile, the Navy Department had been working steadily to produce designs for a crash boat having offshore operating characteristics and a top speed of 45 m.p.h. A contract was awarded early in 1933 for two 45′ V-bottom boats, each powered with two converted Packard aircraft engines. A crew of six consisted of coxswain, deck hand, engineer, doctor, hospital corpsman, and aviation carpenter's mate. The specifications further called for a speed of 45 m.p.h. in two- to three-foot waves and the passing of a three-hour endurance test at 85 per cent speed. This design, the result of constant effort by the Bureaus of Aeronautics, Construction and Repair, and Engineering, was assigned to Hampton Roads and San Diego for test in offshore rescue. Also, at this time, a 36′ 45 m.p.h. boat equipped with the same type of engine was obtained and put into use at Pensacola for inshore rescue work.

The national emergency produced an urgent need for expanded rescue facilities, particularly a long range seagoing type rescue boat and a shallow water, swampy-area, crash boat. The expanded seaplane program likewise had produced a paramount need for a small, light weight, and speedy personnel-utility boat for work around seaborne planes since the standard motor launches and motor whale boats had proved to be unsatisfactory. To conserve critical materials, reduce the number of boats and obtain boat facilities specifically designed for aeronautical use, the Bureau of Aeronautics set up specifications for a personnel-utility boat that would serve as a seaplane tending boat and also perform crash and rescue duties inshore and in shallow water areas. The design chosen for mass production for seaplane tending duties and inshore rescue work, particularly at training activities, was a 24′ type, a number of which could be purchased for the price of one of the old 45′ and 36′ models. Several hundreds of these have been bought and a great number of them are in use at continental stations and advance bases.

The development of this boat brings to light an interesting example of wartime conservation of critical materials, since the Bureau of Aeronautics has now substituted the speedy personnel boat for the 45′ and 36′ rescue boat for inshore work. Also, large scale manufacture of these fast boats made it necessary to find a substitute for the strategic materials of rubber and kapok used in making gunwale pads. These pads, equivalent to shock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absorbers, are bumpers, primarily designed to protect the fuselage when the surface boat approaches a seaborne plane and ties up alongside. The Bureau found the answer in its own design and development of a sponge-like material made from neoprene compound. It has proved to be better than rubber for this purpose in that it retains the resiliency lost by rubber after continued exposure to weather and water, and absorbs and dissipates the kinetic energy of motion rather than merely protecting the seaplane by fending off the boat by a rebound. This new compound, besides protecting the fuselage, serves a useful purpose in alleviating shock to injured personnel. This newly designed rescue boat has a modern collapsible wind- and weather-tight canopy which is brought into use in bad weather.

The 45′ crash boat which served as an inshore boat is now giving way to a 63′ type designed for use as a long range offshore boat, since the larger boat can cover the rough inshore areas that would be hazardous for the smaller craft. In this type, which has a range of several hundred miles, a proper balance is being maintained between durability, seaworthiness and size as speed is increased. A miniature floating hospital, carrying full dispensary and galley equipment, this 63′ boat can care for a number of injured personnel. She can stay at sea overnight.

The Navy also uses the same type of air propeller-driven rescue swamp boat employed by the Army.

In addition to these various types of crash boats, both the Army and the Navy employ a wide variety of miscellaneous vessels in aircraft salvage operations. These include numerous types of runabouts and picket boats, crane boats running as large as 150′ o.a., wooden cargo vessels, steel tugs and a staggering assortment of general utility craft. The salvage of aircraft which have been disabled at sea is a complex operation which necessitates highly trained personnel and vessels equipped for this duty. Salvage, therefore, is not properly a part of a crash boat crew's assignment, although the crews do endeavor to secure a damaged plane when it is possible.

Until recently, the only crash boat detachment outside of continental United States was a large unit located at the Canal Zone. Consisting of 150 men and a fleet of twelve boats, this base has been responsible for the saving of untold lives and millions of dollars' worth of valuable flying equipment. Undoubtedly, similar bases are now established in Alaska, Bermuda, and on numerous islands of the Caribbean. It may also be assumed that similar detachments are being set up in various foreign theaters of war, particularly in the Mediterranean and the South Pacific.

To the yachtsman, these vital units of both the Army and the Navy are of particular interest. They are perhaps one of the few branches of either Service which, although non-combative, require expert small boat operation by hand picked crews 24 hours of the day, 365 days of the year. And it is a service which, though little known to the general public, is writing an important chapter in the history of aerial warfare.

A NEW LIGHT ON AN OLD DESIGN

(Continued from page 35)

It is not unreasonable to predict adequate performance for such a lifeboat. Being of such ancient origin, she is certainly not altogether untried. True, she is untried as a lifeboat but, where lifeboat requirements coincide with the old Dutch uses, she will be successful. To repeat, these coincident requirements are sailing ability under conventionally overloaded conditions. It is apparent that the water line form changes but little on immersion. Beyond this, in the plywood model a quickly built, strong and economical unit is provided. The hull is markedly lighter than that of the conventional lifeboat, an important factor from many angles.

Exclusive of the wartime factor that brings this old Dutch design to light, it is tempting to drift off slightly and speculate regarding the possibilities in better years to come. There may be for some a "dream boat" in this odd hull.

Some men who love boats and the water are not attracted by speed as exemplified in sleek, sharp lines. In the later prewar years, many beautiful stock and custom cruising boats were built. In performance and beauty, these boats were, on the whole, difficult to beat. However, many persons, wishing more comfort and less speed, who never would have approached conditions that would test the ultimate seagoing ability of their boats, found themselves rather uselessly owning them. Perhaps there was a feeling, typical of Americans, of conventionality which resulted in their ubiquity. British yachtsmen have, perhaps, a more philosophical sense in choosing their pleasure craft. Where comfort is a more urgent desire than ultimate speed and performance, they have found craft to give it to them. This fact is readily apparent in the many conversions of Thames barges, organizations such as the Humber Yawl Club, and actual conversions of Dutch *tjalks*. These have cruised to the Mediterranean before the war.

It might be possible that a comfortable, economical cruising craft could be evolved for post-war use from the presently developed plywood lifeboat.

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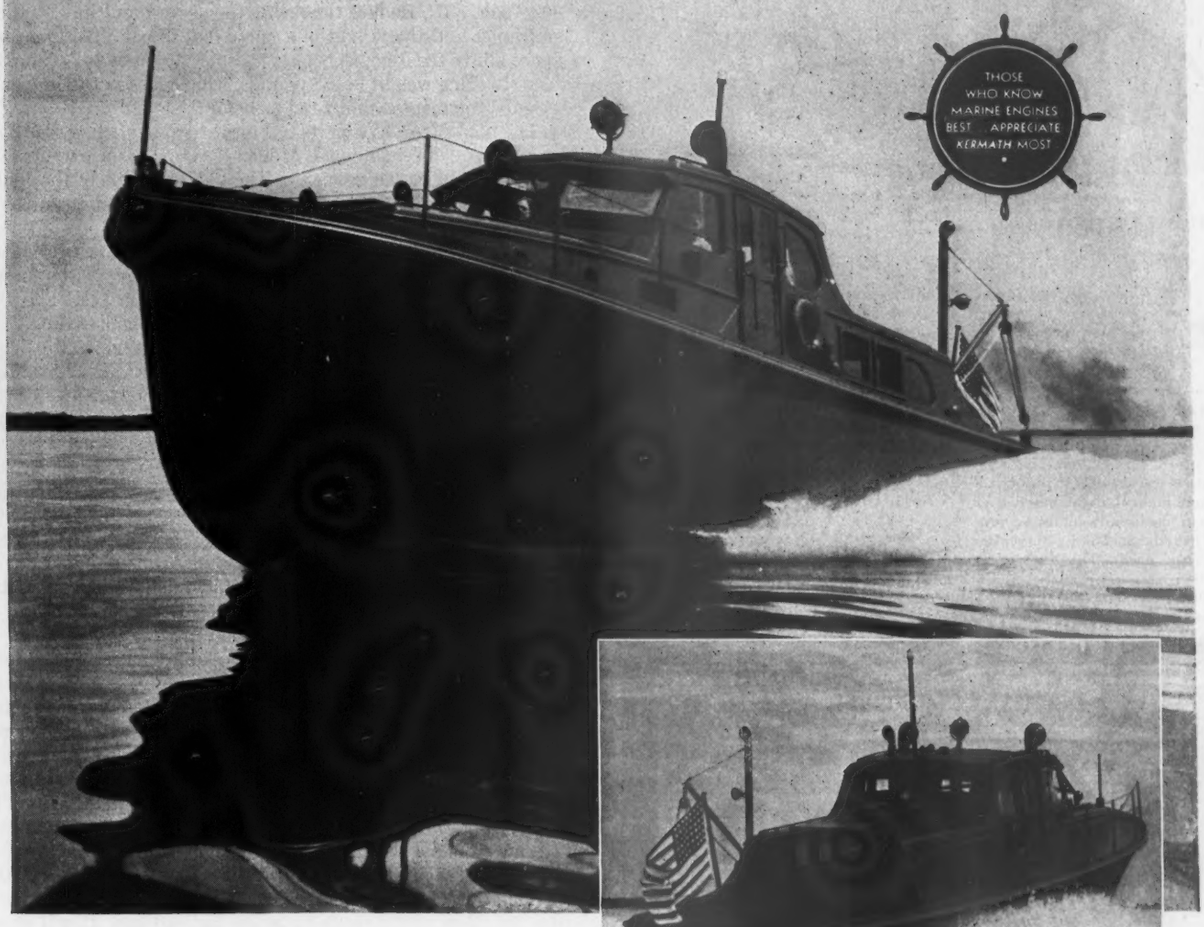

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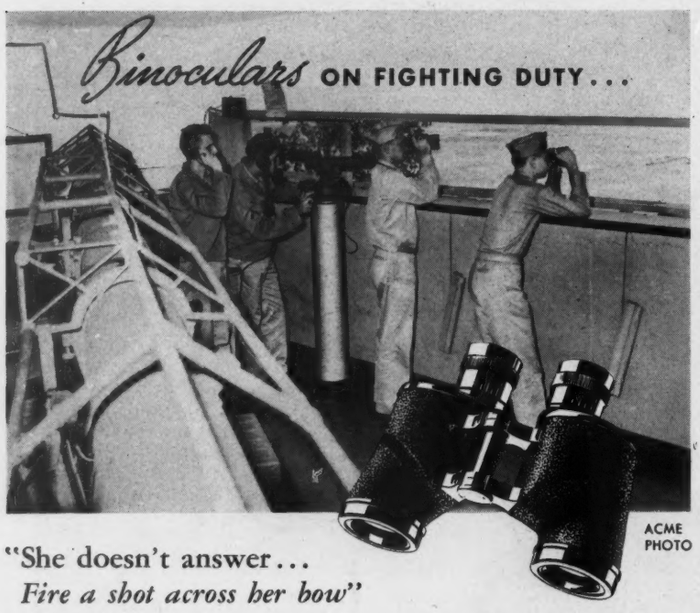

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Navy and Merchant Marine

AMERICAN ENGINEERING COMPANY
Philadelphia, Pa.

YACHT DESIGNING FOR THE AMATEUR

(Continued from page 45)

Now rule up the page of the calculation book for Hull, as shown in Fig. 49. The first entry will be Planking, ⅞" fir, 268 sq. ft. Use the space over this entry for the calculation: 268 (sq. ft.) times 7/96 (⅞ times 1/12, to get the thickness in feet) times 32 (the weight of one cubic foot of fir). The weight is 626 pounds which goes in the Weight column. In the L Arm column put 11.6, the distance of the CG of the planking from Station O. Multiplying the weight by the arm gives the moment, 7262, which is set down in its column. The distance of the CG of the planking from the base line, 2.8 (See Fig. 48), goes in the V Arm column and the product of the weight by this gives the moment, 1750. Next item is Frames, 1⅛" by 1¼" oak, 357'. Reduce the inches to feet and multiply by the total length of frames and the weight of a cubic foot of oak. This sum is done in the space above the item, as before, ⅜ times ¾ times 1/144 times 357 times 54. The resulting weight is 188 pounds, which goes in the proper column, and L and V moments are figured as before.

The item Stem, having its CG forward of Station O, has a minus L Arm and consequently a minus L Moment, so ring it since it must be subtracted from the sum of the moments. The various items of the centerboard and trunk all have the same CG so they are lumped together before being multiplied by the arms.

When the items are all calculated and entered, sum the weights, the L moments and the V moments. Divide the sums of the moments by the sum of the weights to get the positions of the LCG and the VCG, the former abaft Station O and the latter above the base line.

Now start another page for Deck Construction, ruling it up as you did for Hull. First, get the area of the deck and its CG, forgetting for the time being about the house and cockpit. Then figure the area of the house and spot its CG; do the same with the cockpit. Then, to get the combined area and CG, multiply each area by its arm, taking care to give each item, whether arm or area, its proper sign. Remember that plus times plus or minus times minus gives a plus product, while plus times minus gives a minus product. Now enter the items and arms in the Deck Construction page as before. For instance, Deck, ⅞" fir, 157 sq. ft. Figure as before, 7/96 times 32 times 157, to get the weight, 367 pounds. Put this and the arms and moments (11.6, 4260, 4.5, and 1650) in their respective columns. In this particular boat there were both oak and spruce beams which added a little complication to the calculation.

Then go on to the other classifications and figure and set down each item with its Weight, Arms, and Moments, summing the columns and dividing as before. When it comes to Equipment, you may have to guess at some items but be sure to guess them heavy enough; steamboat men say that: "It's the knives and forks that bring a boat down below her lines." And remember how many dinghy loads are carried ashore when time comes to lay the boat up. Engines almost all seem to weigh more than their catalog weights and there is always a lot of piping and heavy equipment with them.

Now to make the summary (see Fig. 50). The total weight, arms and moments of each class are entered, the columns summed, and then the sums divided by the total weight to get the longitudinal and vertical positions of the CG. Now you're ready to tackle the lead keel. It will probably pay to make a special drawing of the keel, perhaps with extra stations half the distance apart of the regular ones. It should be on a larger scale than the drawing of the lines. The last calculation on Fig. 50 shows the weight wanted and the location of the CG. The weight of the lead is the difference between the summed weights and the displacement and the location of the CG must be where the moment of the lead will balance the moment of the summed weights. Since the lead will replace a certain amount of wood in the keel, subtract the weight of this from the weight of the boat and add it to the amount of lead. You'll probably have to make several attempts before you get the correct amount of lead and have its CG in the desired position. Sketch what you think will be the proper outline on the new drawing and find the area of the sections with the planimeter. Draw a curve of areas of the keel on a large scale, as in Fig. 51. Lead weighs about 710 pounds to

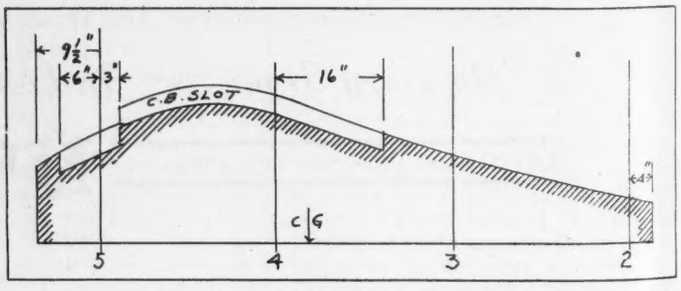
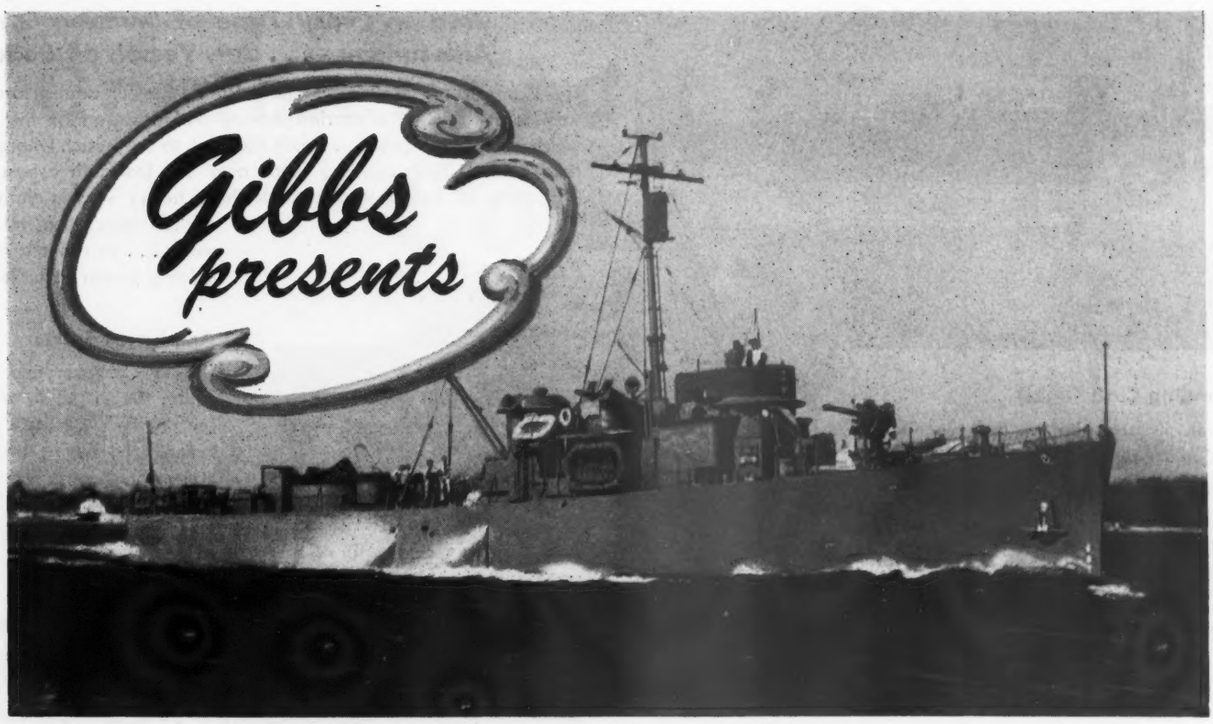


Fig. 51. The curve of areas of the lead keel, with the centerboard slot allowed for



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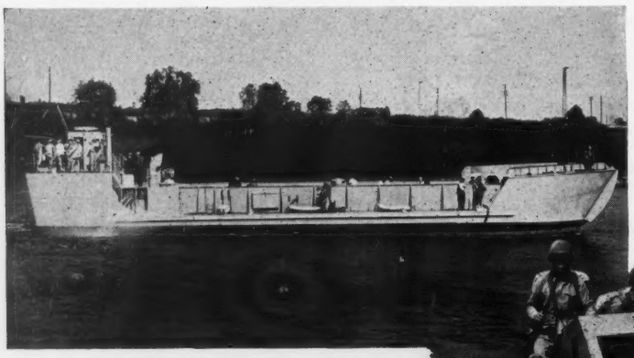

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the cubic foot so that you can arrive at the volume wanted easily by dividing the weight in pounds by 710. Now get the CG by using Simpson's Rule or, more easily, by tracing the curve of areas, cutting it out and balancing it over the edge of a scale. The volume may be found by running the planimeter over the curve of areas. Balancing the tracing is quite accurate, within the "engineering two per cent." When you get the lead right, make a careful tracing of it for the builder, being sure to relate its ends to some station so that he may place it correctly. In a centerboard boat, such as the one whose weights we have been figuring, be sure to deduct the area of the slot from either the sections affected or from the curve of areas.

Some think that this whole matter of the weight calculation is a waste of time, pointing out that there may be a difference of nearly 10 per cent in the weight of a stick cut from the butt of a tree and one from its top, also that there are so many items of equipment that are hard to figure and, besides, that often changes are made during building. I usually allow at least 5 per cent — often more — for errors and omissions and also make an allowance for water soaked up during the first season. Unless a proper weight and trim calculation is made, you won't know how the boat will float and trim until she goes into commission — and then it's too late. I know of one designer who made only the roughest stab at weights — and one of his boats would go an inch or so over her lines and the next one would be light by the same amount. While that's not too bad with a cruiser, it would be fatal in the case of a racing boat. A boat never seems to get any lighter for, besides soaking up water while she's afloat, there are always items of equipment being added and she goes deeper and deeper in the water as the years go by.

And let me caution you, check your figures carefully; if the CG of the deck, say, seems out of place, look for the error and don't try to justify the incorrect figure to yourself, really quite a natural thing to do. In figuring the plumbing, remember that there are sea cocks and lead pipe and that most of the fittings have water in them.

(To be continued)

THE DETROIT-MACKINAC RACE

(Continued from page 24)

beating up past Thunder Bay for *Sonata*, on a long leg out, lost her lead to *Apache*.

It was at this juncture that *Apache's* crew saw *Shamrock's* mainsail flutter to her deck. This happened four times but she was still two miles ahead of us going around the "corner" Presque Isle, 65 miles from the finish at Mackinac Island. At the finish, we learned that *Shamrock* had torn her good mainsail, hoisted an old flat one in its place, sewed the torn sail — which tore twice again during the night.

Getting around the "corner" was a trying job seemingly for all the others astern. Sailing on a close reach, into a threatening black sky, *Shamrock* continued to sneak away from us so we started our sheets a bit and headed for shore. This maneuver paid off.

The wind headed us as we went across Hammond's Bay and just below Forty-Mile Point *Apache* tacked offshore and headed for Spectacle Reef Light. *Shamrock* followed us offshore and we lost her in the haze of the night. But she had been footing fast and pointing higher.

Several miles off Spectacle, the wind hauled and for about an hour we rambled along towards the finish 30 miles away. At dawn, we were slatting around without steerage way. A sail was faintly discernible about a mile astern in the morning mist. If that sail was *Shamrock's* we were in a great spot but we weren't certain since *Minx* and *Vitesse* had come up fast just before we had gone around Presque Isle. *Apache* knew that good men were aboard both ships, men who knew the short course to Mackinac.

We were right but, as a nice breeze came dancing out of the southwest, sending us along on a spinnaker run to the finish, we were able to make out *Shamrock's* number on the mystery ship. *Vitesse, Estrellita, Pintail* and *Minx* also were well in sight by now.

Apache didn't gain on that run in but *Shamrock* didn't catch us. Gmeiner's boat crossed the finish line between the judges' tent on Mackinac Island and the Round Island Light at 10:04:20 a.m., Monday morning.

She didn't have her spinnaker on deck before *Shamrock* had finished, at 10:09:44. Grates' only other rival was *Pintail. Shamrock*, for the second year in a row, won racing class honors.

Vitesse was third in to take second place in the Racing-Cruising Division behind *Apache*. She got her gun at 11:00:57 a.m., and was followed closely by *Estrellita. Pintail* was next, at 11:09:35, just under an hour astern of *Shamrock* and not quite four minutes ahead of the 39-year-old *Minx*.

Minx, sentimental favorite, had to give places away to *Sonata* and *Kathmar* on corrected time. *Sonata* finished at 11:30:51 a.m., moved up into third place behind *Vitesse* and finished at 2:13:26 to take fifth.

In the Cruising Division, Perce Williamson's Casey yawl *Rainbow IV*, a 40-footer, and Andy Langhammer's 38-foot cutter *Rambler VI*, scrapped all the way up to the Island. *Rainbow* was first to finish at 5:29:36 but lost on corrected time to *Rambler VI* which got in at 5:37:10. The victory ended

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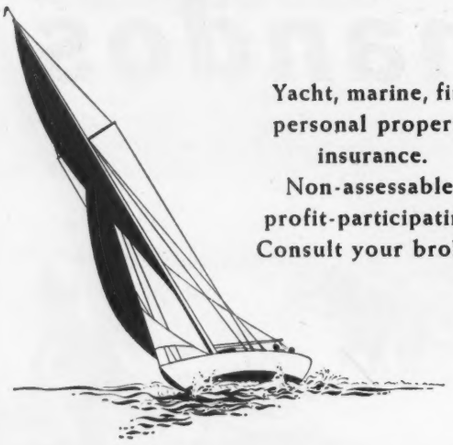

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a long quest for Langhammer who had finished second in the cruising group the three previous years.

Dorjack, Les Lodge's yawl, got her finish gun at 6:46:35 p.m., coming in under a spinnaker and running out of wind right on the line just as the first Chicago boats, all in a bunch and carrying a different breeze, reached into the finish.

Veteran crews were aboard all the winners: Gmeiner had Frank Kursten, Fred Blackwood, and Fred Blackwood, Jr., Vic Taylor, Ted Coggin, Bill Wagner and a man seeking surcease from the newspaper world, aboard *Apache*.

Sailing with Grates in *Shamrock* were: Paul Renner, Paul Williams, Bill Noah, Jimmy Grant, Bill Lapworth and Falconio Carrier. Al Hamilton, Pat Patterson, Ed Knevals, Bill Hayes, and Ken Oxley sailed with Langhammer in *Rambler VI*.

The weather man was kind and handed out the nicest breeze in years. There was no major damage to gear and Charley Beck, who ran the race for the Bayview Yacht Club with the help of Ed Keifer, Homer Burdeno and Bill Nagel, did an efficient job.

But this year's race will be remembered most likely as the time Perce Williamson's *Rainbow IV* blew up at the dock. A terrific explosion shattered her hull just after she had taken on gas preparatory to starting a cruise to Georgian Bay. Williamson, in the cockpit at the time of the explosion, miraculously escaped injury, although there was only one spoke left in the wheel which was not more than three feet from him.

The summaries follow:

DETROIT-MACKINAC RACE

RACING-CRUISING DIVISION

Boat	*Owner*	*Elapsed time*	*Corrected time*
Apache	Wilfred Gmeiner	44:04:20	40:33:24
Vitesse	Cletus Welling	45:00:57	41:30:01
Sonata	Stuart Rackham	45:30:51	41:59:55
Estrellita	George Naumann	45:05:51	42:14:53
Kathmar	James Grove	48:13:26	43:05:16
Minx	Edward Wunsch	45:13:56	43:07:02
Stormy Petrel	Ed. Flinterman	52:06:45	45:55:55
Josephine III	Tom Petsold	47:58:42	47:58:42
Arethusa	H. C. Scherer	Finished 3:37:52 a.m. Tuesday	

RACING DIVISION

Shamrock	Ernest Grates	44:09:44	
Pintail	Darnell-Knapp-Palmer	45:09:35	

CRUISING DIVISION

Rambler VI	Andy Langhammer	51:37:10	45:19:10
Rainbow IV	P. C. Williamson	51:29:36	46:06:48
Dorjack	Les Lodge	52:46:35	Uncorrected
Kittiwake	Bob Neesley	Finished 5:19:31 a.m. Tuesday	
Fugitive	Harvey Jackson	Finished 8:13:00 a.m. Tuesday	

WHEN IS A WORM NOT A WORM?

(Continued from page 43)

year. With many, this odor is not objectionable. Of course, it makes the boat heavy. Merely to paint creosote on the surface is kindred in effect to sprinkling it with maiden's tears. Hopes of applying a coat of paint to a creosoted timber within the first five years must be abandoned. While the creosote pressure method gives effective protection, practical features of application militate against its use after the boat is built.

Painting the underbody with a good commercial bottom paint is the most satisfactory method, next to copper sheathing. These paints contain copper compounds which emit the copper salt so objectionable to the borer. This compound becomes weaker as time goes on and, therefore, less effective. A good copper bottom paint lasts about four months with assurance of protection. In cold waters, it is good for eight months. In any event, the boat should be hauled out, cleaned and repainted every four months. As added precaution, she should lie or cruise in fresh water as often as practicable if only for a day or so at a time. High grade copper tacks driven into the hull one-half inch apart, the entire surface then being coated with a high grade copper bottom paint, is about tops in practical protection, short of copper sheathing.

Whenever the boat is hauled out, watch her bottom carefully for weeping or small damp spots that persist as the rest of the bottom dries. Such spots are prima facie evidence of the presence of shipworms. The soundness of her bottom should also be tested. Do this by tapping each plank easily with a light hammer at one foot intervals. If a dull thud is the response, suspect the presence of shipworms. In such cases, quickly applied heat will make them turn up their toes. This can be accomplished by directing a steam hose against the plank in question or by applying a blow torch to the extent of blistering the paint. The best solution when the presence of shipworms is initially detected, however, is to replace the infected planks.

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To the many hundreds of entrants in our "Cruiser of Tomorrow" Contest we offer our sincere thanks. To the Judges we offer our deep appreciation of a difficult job well done. • To the prize winners we offer our congratulations. • The geographical distribution of these prize winners indicates the widespread interest in boats and augurs well for the brilliant future of boating once peace comes again. • Conversion from war to peace will present no problem if you plan *now* to own a Richardson Cruiser *later.* You can put the money aside by buying War Bonds now.

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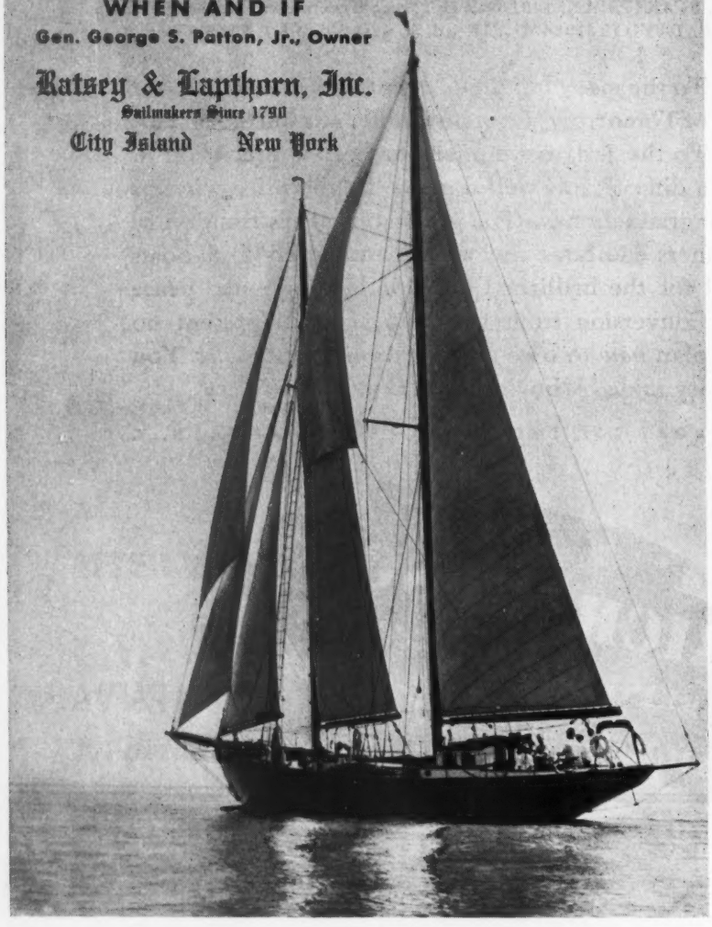


News from Yachting Centers

LONG ISLAND SOUNDINGS

By Starboard Tack

▶ It's high time that a not too jocular trophy be devised for the race committee chairman and his crew who have done the most perspiring, whistle tooting, course altering and summary computing during the season's racing on the Sound. And no Gallup poll is necessary to select this year's leading candidate for such honors — namely, Alex B. Gest, Jr., and his hard-working Larchmont committee. He reports that queries regarding the Larchmont classic were received from yachtsmen in the armed forces throughout the world, another reason why there will always be a Race Week.

Speaking of the Larchmont Y.C. and its race committee, the New York Y.C. Annual Regatta, August 22nd, was conducted by the Larchmont officials. This rather unconventional arrangement, made necessary by wartime conditions, has worked out to the complete satisfaction of all.

▶ Eight fleets, from almost as many points in the compass, participated in the International Star Class world championship to be held at Bay Shore, L. I., starting August 24th. Local skippers are Arthur Deacon, who sailed with Perry Roehn; Harold Halstead, who teamed up with Reeve Bowden; Charles Ulmer, who had his wife as crew. Other entries from nearby ports include George W. Elder, Gravesend Bay; Paul H. Smart, Central Long Island Sound, and Ted Clark, Southern Long Island Sound.

Contestants also came from the U. S. Coast Guard Academy; San Diego Bay; Newport Harbor, Cal.; Wilmette Harbor; Seneca Lake, N. Y.; and the U. S. Naval Academy.

▶ As a result of the war, the American Y.C. abandoned its plans for a formal cruise this summer. At one and the same time, they established a pleasant practice of making it possible for a group of the fleet to sail informally and "in company" for the better part of the week of August 7th. The fleet made short jumps down the Sound and return . . . and a good time was had by all hands. See the next issue of YACHTING.

▶ Great South Bay's streamlined race week, which opened with a rip-roaring sou'wester, closed with 54 yachts on the starting line for the fourth day's race. Harold Halstead, Moriches Bay's star performer, won the Corry Trophy for Stars for the fifth time.

The series summaries: Interclubs, *Southern Cross* (Robert Roe); Class R, *Querida* (Duncan Arnold); Zephyrs, Debutante (Betty Harwood); Stars, *Chuckle V* (Harold Halstead); Narrasketucks, *Gem III* (R. J. Ireland); Lightnings, *Sandpiper* (Craig Wettmer); SS Sloops, *Nina* (Paul Layman); Snipes, *Dipsy Doodle* (R. Hornfeck); Cape Cod Class, *Winsome* (C. Eldert); Comets, *Imp* (Jack MacElwee).

▶ *Hera*, skippered by Robert Monetti, of Manhassett Bay, won the Junior Y.R.A. Atlantic Class regatta for the Robert Law Trophy, taking two of the five races during the two-day competition off the Indian Harbor Y.C. Gold medals went to the winning crew as did silver medals to last season's Law Trophy winner, Charlotte Perry, of Pequot, and her crew second with 26 points and two firsts. Special ribbons were awarded Robert Mosbacher, of Knickerbocker, and his crew for tying on points.

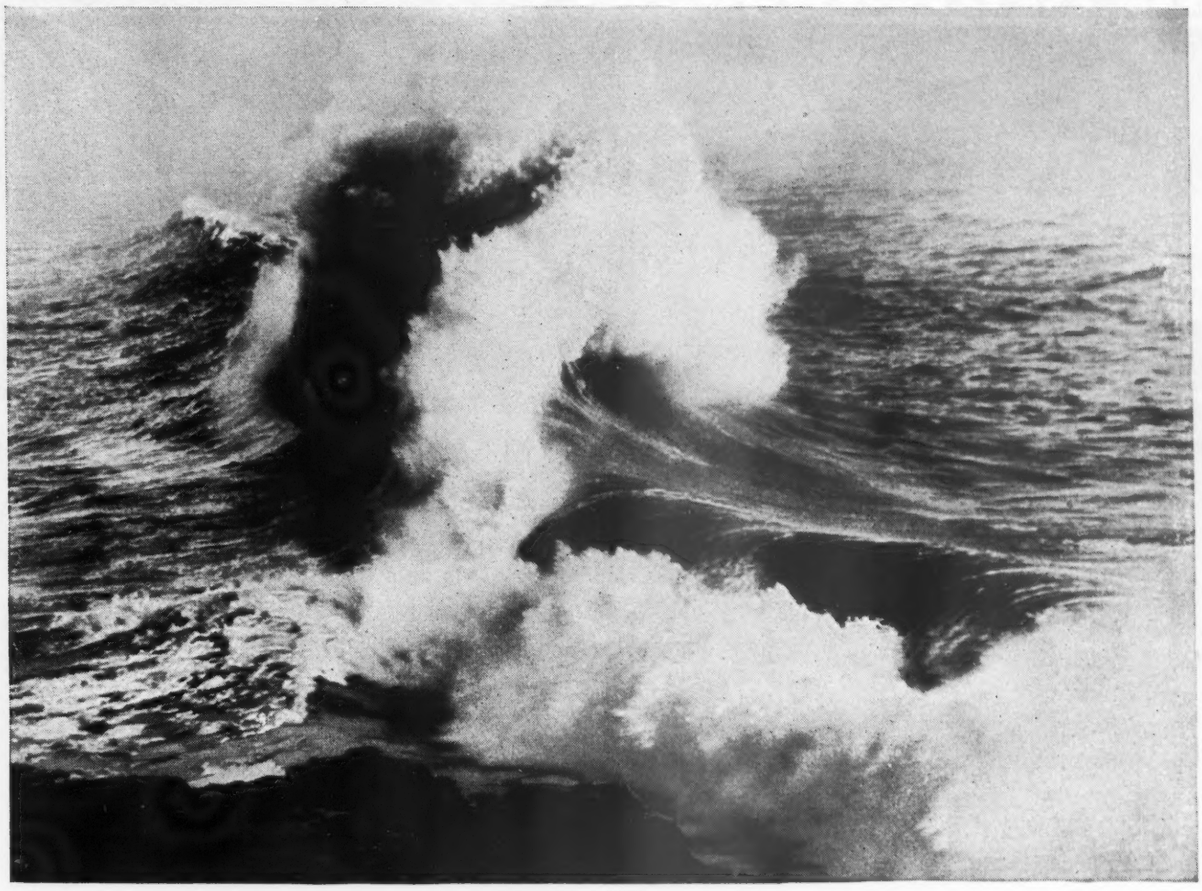
The Summaries: Manhasset Bay, *Hera* (Robert Monetti, Ray Gregory, George Shaver), 28 points; Pequot, *Carolina* (Charlotte Perry, Dexter Covel, Link Wheeler), 26 points; Knickerbocker, *Minkie* (Robert Mosbacker, Pat Davis, Don Scholle), 26 points; Stamford, *Hound*, 25 points; Larchmont, *Ariel Toy*, 21 points; Indian Harbor, *Rumour*, 18 points; Cold Spring Harbor, *Nereid*, 17 points; American, *Teal*, 13 points.

▶ The most recent directive issued by the office of the Captain of the Port, Third Naval District, states that "except as otherwise specially authorized or as necessary in the conduct of legitimate business no person shall operate any small craft within 1000 feet of any vessel exceeding 100 feet in length, whether the latter is anchored or under way. The following special rules shall be applicable to all persons and agencies engaged in the hiring of small craft to others:

No such craft shall be hired to any person not possessing a valid Coast Guard identification card, nor to any person possessing a Coast Guard identification card issued to an enemy alien.

All such persons and agencies shall keep a record of all hiring transactions, which shall include the name and Coast Guard identification card number of the person to whom hired, and the time when such hiring begins and ends.

▶ A 173′ escort vessel, bearing the high hopes of all of the citizens of Rochester, N. Y., was recently launched by the Consolidated Shipbuilding Corp. The new craft, *PC 1206*, was selected to honor Rochester for its outstanding record in the War Bond Drive.



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NARRAGANSETT BAY GOSSIP

By Jeff Davis (Old Doc)

▶ Here in Narragansett Bay, the regatta season lasts only about two months and, as this is chronicled, it's a little better than half gone but it's been a busier one, so far, than anybody expected.

Still to come at this writing are the East Greenwich Y.C. annual August 14th, Barrington Y.C. August 21st, Narragansett Bay Y.A. August 28th and the Rhode Island Y.C. long distance race September 5th. The Edgewood, Coles River, Taunton and East Greenwich regattas were sailed from their home clubs. All others were and will be from the Rhode Island Y.C.

▶ With race committees planning courses that keep the boats well away from military and naval reservations, laying out a 30-mile course that doesn't take the boats south of the north end of Prudence Island makes the chart look like something drawn by a guy with a good hangover who wasn't sure of the way home. To follow the course keeps a skipper on his mettle.

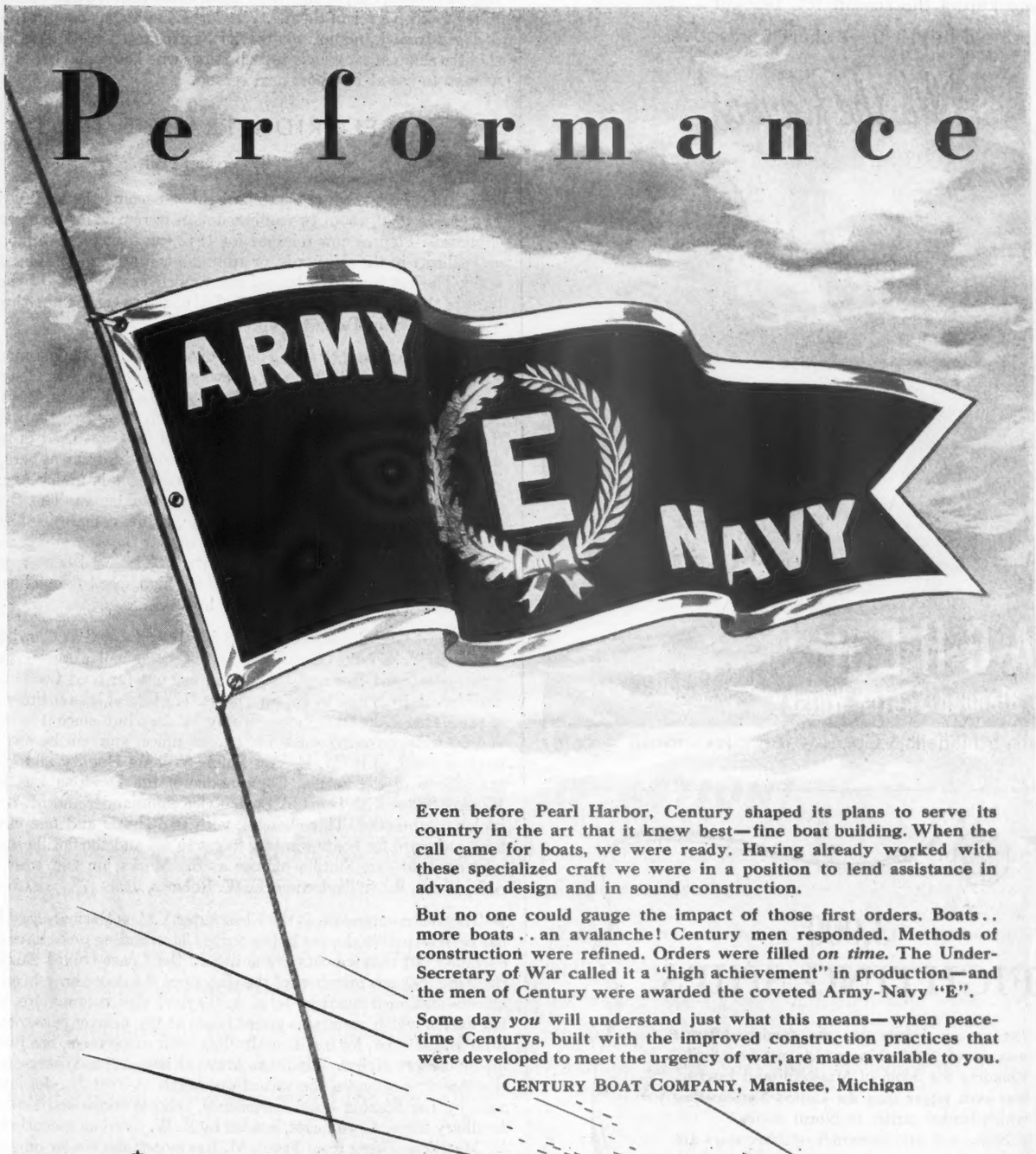
▶ Challenging any section of the country to match this one. There are five boats in the Narragansett Bay Y.A. Allowance Class B, each built to a different rule. *Tuna*, an old gaff-rigged sloop built nobody remembers how many years ago to the old Seawanhaka water line and sail area rule; *Tyche II*, Universal Rule; *Aloha*, International Rule; *Buccaneer*, Sonder boat; and *Mallard*, Skerry cruising rule. On our measurement, *Tuna* rates 23.6; *Tyche*, 23.4; *Mallard*, 23.3; *Aloha*, 22.5; and *Buccaneer*, 22.1. *Tuna*, *Tyche* and *Buccaneer* have won firsts. *Aloha* and *Mallard* have sailed only twice. In the Power Squadron's regatta, over a 12½-mile course, *Tyche* won, *Tuna* was second and *Mallard* third, with three minutes and three seconds between *Tyche* and *Mallard*.

▶ Herreshoff S boats have changed Allowance Class C into a one design class for, although there are some Triangles and Atlantics here, the Triangles have quit and the Atlantics haven't started this season. But the S Class craze is growing. At the beginning, there were two, Alden Walls' *Nina* and Russ Boss's *Argument*. Then Frank Hodges bought *Quissetta*, now *Whistler*, and John M. Corr bought *Naut* and renamed her *Red Jacket II*. *Whistler* got here in time for the Power Squadron regatta and *Red Jacket II* will be in the East Greenwich regatta. The fifth S is *Sandust*, owned now by the Seabees at Camp Endicott.

▶ Short Ends. . . . Got several new boats, new to Narragansett Bay, and, if the Rhode Islanders keep on raiding the yards along the south side of Cape Cod, by and by there won't be many left there. . . . Bill Dyer has bought the 45′ yawl *Toshi-Norrie* from Dr. Gleason, of Hyannis, and brought her around from Falmouth to Warren. *Toshi-Norrie* is the biggest cat boat Crosby ever built, but was changed to yawl rig. Anybody who ever sailed a big cat can have three guesses as to why. Dyer has changed her name to *Blue Pigeon*. . . . Norman Cook, of Longmeadow, has bought the Alden-designed, Gamage-built, auxiliary ketch *Doroteo*, 46′ over all, and has brought her around from Falmouth to East Greenwich where she will be enrolled in the East Greenwich Y.C. fleet. She was owned by Walter C. Janney, of Philadelphia. . . . Bill Lister, power boat man for a dozen years, has bought the Rhodes-designed, Casey-built, 29′ auxiliary sloop *Knot Wise* from Wise Westcott, who is now in the service. She was *Crosspatch* when Westcott bought her last year but he didn't profess to know anything about sailing, didn't get her afloat at all, and Lister took her at Mystic and proposed to learn to sail her on the trip from Mystic to Edgewood. He thinks *Knot Wise* will still be an appropriate name as he doesn't profess to know much about a sail boat either. . . . Edward Quirk has bought Bud Phillips' Triangle Class sloop *Flying Cloud II*. She wasn't in commission last year as Bud went into the service. She will go to the Rhode Island Y.C. fleet. . . . Leo Bayles has sold his unnamed cat to William Riggs; Lew Potter's knockabout *Elva* was sold to Gerald Hough, and Howard Lee has bought the Herreshoff 15-footer *Adios*, formerly owned by Fred Thomas. . . . Ed Roberts has turned his auxiliary yawl *Empyrion* over to the Coast Guard to be used as a training ship for the reservists here. Ed enlisted in the Reserve last summer. *Empyrion* is in charge of Ensign Clifford Gustafson, former top notch Snipe skipper, and one of the Brown skippers in Intercollegiate dinghy races. . . . Bill Dyer has sold his *Wooden Shoe* to A. S. Kidder, of Barrington. *Wooden Shoe* is an overgrown Dyer Class A dink with a jib-headed rig and a trunk cabin, built several years ago for Peter Geddes. . . .

Dick Dougdale has bought the Herreshoff Fish Class *Wahoo* from Charles Tallman. She is the only Fish left in Narragansett Bay where the class was once popular at the Warwick C.C. . . . Leon Nickerson has sold his cruiser *Spunky* to George Shepard and bought another Indian, *Firewater*, making two in the family. His *Keemah* is in commission, reserved for the use of any of the Edgewood boys who are in the service when they are on leave. . . . Burton Raymond sold his Indian *Chinook* to Jim Banford and Bob Bolton and bought the Roué-designed schooner *Waterwitch*. He finds

Performance



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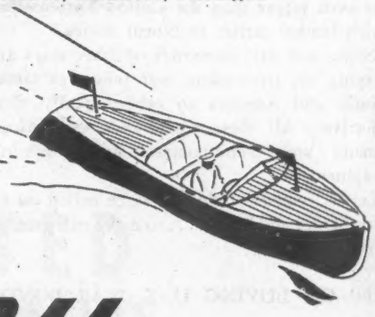

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SANDS

there isn't water enough for her at Edgewood so he is keeping her at East Greenwich. . . . Dr. C. T. Heilborn has bought the Friendship sloop *Wanderlust* from Dan Clark. . . . There are so many changes of ownership of Beetles, Snipes and other small boats that it's like chasing rainbows to try to keep track of them. . . . Carl I. Hayes has bought the "Squeak" *Mallard* from Randolph Sharpe, of Nantucket. Dr. G. T. McKnight has sold the sloop *Manatauqua* to Bob Pettis who has resold her to a New York woman to use at Newport next season.

FLORIDA TRADE WINDS

By Vivyan Hall

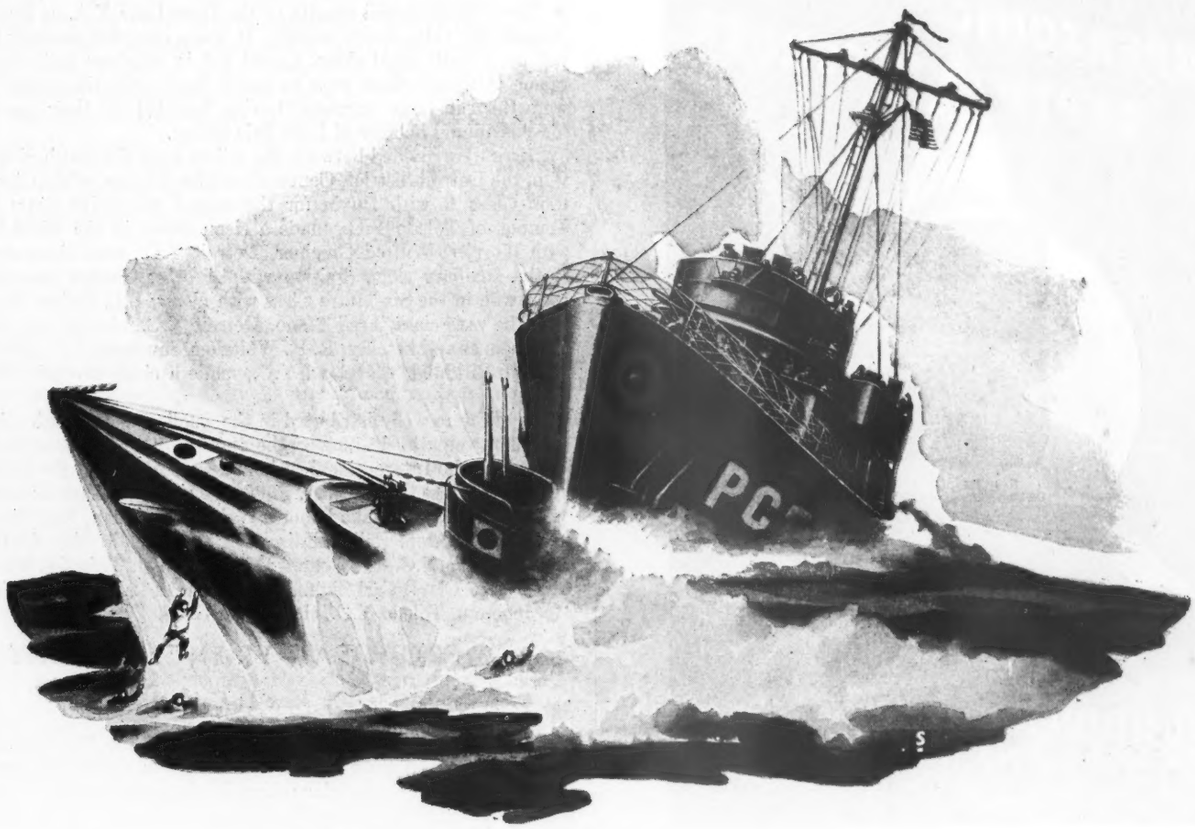
▶ Within the last year, boatbuilding has become the leading industry in Florida. In 1939, about two million dollars were paid out to personnel in the shipyards. Figures now released for 1942 run over forty millions for labor and salaries in the shipyards, or around a third of the total industry of the state. The last type to be turned out, reported as the first of the kind ever built in this country, is a self-propelled concrete cargo ship, three of which were launched in Tampa in mid-July.

▶ One of the most interesting pieces of equipment of the Submarine Chaser Training Center at Miami is a cutaway model of the new General Motors pancake marine Diesel engine. This motor, of a hitherto undreamed of light weight per horse power and occupying much less space than the conventional Diesel, is a recent development and was first used in some of the smaller naval vessels. Set up in the engineering department here, the model is driven by an electric motor. This department is under Lieut. Comdr. T. H. Green, of Chattanooga, an old-time yachtsman. The Dooley Basin and Dry Dock, Inc., of Fort Lauderdale, is just completing the last of an order for twenty 135′ aircraft rescue boats for the Army. Rugged, offshore cruisers, they are suitable for long patrols. The yard is now going ahead with an Army order for a quantity of 85′ high speed rescue boats to carry two Packard marine engines of 1300 hp. each.

▶ A Coast Guard Auxiliary flotilla has been formed at Clewiston, on the southern side of Lake Okeechobee, with the particular objective of building an observation tower and keeping an eye out for boat traffic on the lake and aircraft from nearby training fields. The largest lake entirely within any of the states, Lake Okeechobee is only 14′ deep but, since it is 35 miles long and 30 wide, covering some 730 square miles, you can be out of sight of land on much of it. M. E. Von Mach, William Hendry and Lou Betzner are officers of the flotilla. Commander of the Daytona Beach flotilla is William Snow, with Dana T. Bowen vice commander and M. L. Chadwick junior commander. This channel, with bad shoals and fast currents, has been awkward for boats wanting to get to sea and the flotilla is getting the inlet dredged out. Flotilla officers at St. Marks, on the west coast, are A. L. Work, R. A. Taylor and E. W. Roberts, Jr.

▶ The new commodore at the Clearwater Y.C. is Herman Day Keller who has been an active skipper in the Snipe Class. Sailing races have been much curtailed but motor boats are active in the Coast Guard Auxiliary. And there are 300 new members of the club since the doors have been opened to officers stationed nearby. John A. Taylor, vice commodore, commands the flotilla which maintains guard boats at the nearby passes to the Gulf. A 50′ signal mast, for use in controlling their maneuvers, has just been put up by Tobert Keller. Windham Mayo, whose 32′ auxiliary cutter *Dusty Weather* now occupies the waterfront berth at Fort Lauderdale formerly used by the floating hotel *Amphitrite*, reports continued activity in the Auxiliary there. A syndicate, headed by R. W. Condon, recently bought the 46′ Matthews *Diane* from Frank M. Raymond; she is now on patrol work. The motor cruiser *Floridian II*, formerly owned by Harry Dunn, of Miami, has been bought by William Miller and has also been added to the flotilla. A third recent addition is John Smith's *Spook*, a Matthews "38" which formerly belonged to Charles DeWitt.

▶ Henry Pohl, who for some years has distributed and serviced Gray marine engines throughout Florida, is now a lieutenant in the Navy. Commander Jack Rutherfurd, who has raced motor boats of all classes in the Palm Beach and Miami regattas, is in charge of the Naval Reserve Aviation base at Philadelphia. Sherman F. Crise, better known to his Rod and Reel Club friends as "Red," now in the Bomber Ferry Command, recently covered 24 countries in 18 days. Meanwhile, he is having Dooley's yard keep his motor-sailer *Norene* ready for his return to the fishing grounds as soon as the war is won. F. Worthington Hines has sold the 75′ motor houseboat *Loller* to William Logan, of Miami. Hines, a former Army officer, is again in the service and on duty in the European war zone. Prescott Gardner, of Vero Beach, and T. L. Howell, of New Smyrna, have both been commissioned lieutenant (j.g.) in the Coast Guard Temporary Reserve. Both men are old-timers in Florida boating. Lieut. Comdr. Stanley H. Pierce is the new commander of the Navy's section base at St. Petersburg.



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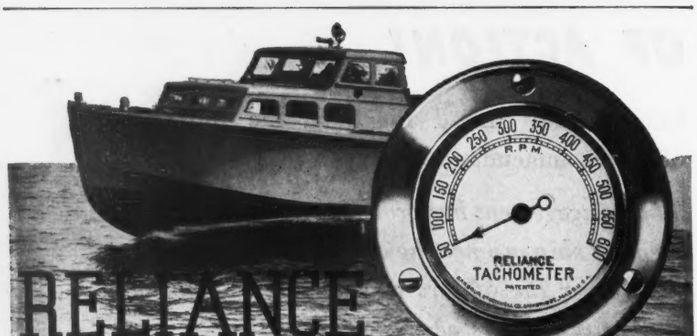

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THE SOUTH SHORE OF LAKE ERIE

By John G. Robinson

▶ The fiftieth annual regatta of the Inter-Lake Y.A. at Put-in-Bay, O., August 9th–11th, is now history. It was a complete success; the veterans put on a really good show, turned out in numbers and staged splendid racing. Although there were no power boat races, the power boat owners were there in large numbers, having hoarded up their gasoline rations for this annual holiday of Lake Erie sailors.

Prizes were divided between the sailors from the South Shore and those from the Detroit district. Commodore Alex Winton, of the Cleveland Y.C., took Class R with *Puffin* for the second successive year; Lieut. Fred Temple, of Toledo Y.C., made a clean sweep in the Eight-Metre Class with *Warrior*; Wilfred Gmeiner, Detroit Y.C., took three straight races in the auxiliary sloop division with *Apache;* Gordon Saunders, Detroit B.C., won in the Six-Metre Class with *Noreg;* L.L. Lodge, Bayview Y.C., took the yawl class; Fred Meno, Detroit Y.C., cleaned up in the events for schooner and ketches; R. H. Whitaker, Sandusky S.C., led Class R; and William Birkhold, Cleveland Y.C., made a clean sweep in the Universal Class.

Honors were well distributed in the smaller classes with Al Wakefield, Vermilion veteran, cleaning up the Stars; Gordon Douglass, also of Vermilion, taking the International 14 honors; Joe Matte, of the Bayview Y.C., winning in Class C; F. Miller, Put-in-Bay, taking Class K; Gene Brandle, Sandusky S.C., Interlake honors; Walter Swindman, Bay View Y.C., the Lightnings; Harold Kelley, Edison B.C., winning in Club sloops; O. E. M. Keller, Lorain Y.C., the Comets; Harvey Busch, Lakeside Y.C., National One Design Class; Carl Zimmerman, Portage Lakes Y.C., Snipes; and V. McMenemin, Toledo Y.C., the Nipper Class.

FROM SAN FRANCISCO BAY

By Jesse L. Carr, M.D.

▶ The war continues to affect yacht clubs of the Bay area. Most clubs have thrown open their facilities to officers in the armed forces, even if this had not been the regular policy. With points figured on meals served previously, the great increase in patronage caused by a most welcome influx of Service men has caused the St. Francis Y.C. to limit the number of guests which can be brought to the club by members. This club is also attempting to solve the vacation problem by closing the grill room during August and September, releasing employees for a holiday.

At the other end of the Bay, developments rather than curtailments continue. The Coyote Point Y.C. has completed 38 new berths with a deep water channel now extending from the yacht basin to the Bay, with a mean low tide depth of 12 to 14 feet. It has been granted use of the Municipal Golf Club house for meetings and social gatherings and, in company with the Richmond Y.C., which was dispossessed of its clubhouse by the rapid development of the Richmond Shipyards, will continue to make use of substitute meeting places until after the war.

▶ Nunes Brothers have under construction at their yard exceptionally heavy 85′ patrol boats which are to be used as icebreakers. They have 4″ by 8″ sawn frames on approximately 9″ centers, heavy planking, and will be apparently powered by a single Diesel. Western Pipe and Steel has also produced steel twin screw icebreakers of a much larger type. A large screw in the bow, well below the water line, will suck water from under the ice so it can be more easily broken. Madden and Lewis have launched all but two of their last group of patrol boats and Stephens Brothers' yard in Stockton announced a new Navy contract.

▶ An innovation for the Aeolian Y.C. is the Lieutenant Barkesdale Trophy Race, scheduled for August 14th and 15th. The club cruised to McNear's Point on August 14th and raced from the starting ine at McNear's Point to Racoon Strait, around Angel Island and back to the Berkeley pier. All the boats in the club were handicapped on a performance basis. Dan Miller, Charles Tau, and J. B. DeWitt had charge of the event.

▶ Jean Hundley, for years afterguard with the Ford Brothers in *Yankee*, has bought the 26′ cruiser *Ruthie III*. She will sail from the St. Francis Y.C. Merrill Hulse has formally christened his new 50′ Mathews cruiser *Frolic*. Mr. Johnstone has bought *Francis Kay III* from Nelson Jones who, in turn, has bought *Murmac II* from Leo Murcell. *Murmac*, built by Stephens recently and powered by two 71 hp. Grays, will sail from both the Corinthian and St. Francis. Harold Baker now owns the cutter *Navigator*. John Robie has bought the motor boat *Mona Wai*.

▶ One of the hardest blows yachting has sustained in many years came with the death of Arthur Rousseau early last month. Ill for some time, his death was still a shock and he leaves behind not only many saddened

friends but a yachting record which will probably never be equalled on San Francisco Bay. Long a faithful member, organizer and later commodore of the Corinthian Y.C., he brought to San Francisco from the East Coast more new types of boats, and better boats, than any other yachtsman. These he sailed well and was always in competition. For 14 years he successfully defended the Challenge Cup and was many times responsible for its remaining in San Francisco water. Most of all, he interested young people in sailing and trained many sailors, now great in their own right, in handling boats and in racing tactics. In later years, he was also a loyal member of the St. Francis Y.C. and was always a dependable member wherever he belonged. While his successes in business and in yachting were great, his friends were an even greater success and his loss to them as well as to yachting will be keenly felt.

ON COLLEGE CHARTS

By Leonard M. Fowle

▶ July was a light month in college yachting but there were two interesting dual meets. One inaugurated intercollegiate competition under the colors of Stevens Tech on the week-end of July 10th–11th. The opponents were the cadets from the U. S. Merchant Marine Academy at King's Point, the first time that this institution, situated on the Sound at Great Neck, has engaged in college sailing of any sort. The result was a 10-10 tie.

Stevens Tech has been a member of the Inter-Collegiate Y.R.A. for 18 months and has competed for a longer period but this meet was its first "home" race in its own boats, four Penguins which the students built in spare time during the past year.

▶ The month was closed by a meet on the Thames River between the Coast Guard Academy and Yale in which each team was represented by seven crews, an unusually large number for a dual contest. The Cadet team was recruited entirely from members of the new third class as the upper classes were away on specialized training; Yale also used a number of freshmen. However, the Elis had their commodore, Cliff Lewis, in the lineup and he just about spelled the margin of the Blue's triumph by a 372-342 score. Joseph Tamsky, of New Haven; George Hall, of Newport Harbor, Cal.; and Bruce Cameron, of Larchmont, also showed promise for the Yale team. Billy Page, of Marblehead, was Coast Guard's high scorer as Lloyd Clark, of Greenport, John Aldrich, of Annapolis, and Alfred Tatman, of Norfolk, did some good work for the home team.

▶ The Navy V-12 program has brought no such shifts of sailing talent as have been noted in some other sports; Cornell, Dartmouth, Harvard, Holy Cross, Michigan, Pennsylvania, Stevens, Williams, and Yale all face the late summer and fall season with about the same skippers they had in the spring save for graduates. The Army training program has, however, hit Northeastern and M.I.T. rather hard.

▶ Another club which deserves commendation for overcoming obstacles is Michigan. As the only mid-West member of the Association, opportunities for intercollegiate competition are not frequent. Yet Commodore Caleb Warner reports that the club is thriving, has a large waiting list, is engaging in interclub meets with four or five yacht clubs on the Great Lakes this summer, and is having some keen intramural racing. Besides, Michigan hopes to send a team to one or more of the big Eastern meets.

▶ The war strikes home again with the announcement by the Navy Department that Lieut. Delavan B. Downer, Jr., U.S.N.R., is missing in action following the loss of the U.S.S. *Strong* in the Kula Gulf on July 4th. Lieut. Downer, M.I.T. 1940, at last reports was engineering officer in this destroyer. A host of friendly rivals remember "Tid" Downer as the less-publicized but extremely important member of the M.I.T. crew which Runyon Colie sailed to successive Morss Trophy championships.

Graduate Notes: Lieut. (j.g.) F. Gardner Cox, Jr., U.S.N.R., I.C.Y.R.A. 1941 president, is back in the United States after a tour of duty in the South Pacific in MTBs. . . . Lieut. Robert N. Bavier, Jr., U.S.N.R., Williams' 1940 commodore, has been assigned to one of the Navy's new DEs. . . . After graduating from the V-7 school at Notre Dame, Ensign Emil "Bus" Mosbacher, U.S.N.R., Dartmouth's 1942 commodore, is studying at Harvard and racing on week-ends at Marblehead as crew for George O'Day, Harvard's commodore, in the 110s. With Dave Noyes graduated, George O'Day probably wishes he could use "Bus" as a Crimson skipper in the I.C.Y.R.A. events! . . . Jack Simons, of Drexel, was commissioned ensign in June from Columbia and is now undergoing further training at the Submarine Base at New London. . . . William Peele, one of Trinity's best skippers of late, is in the Coast Guard, stationed at the Academy, assisting Lieut. "Jack" Wood with the sailing program.

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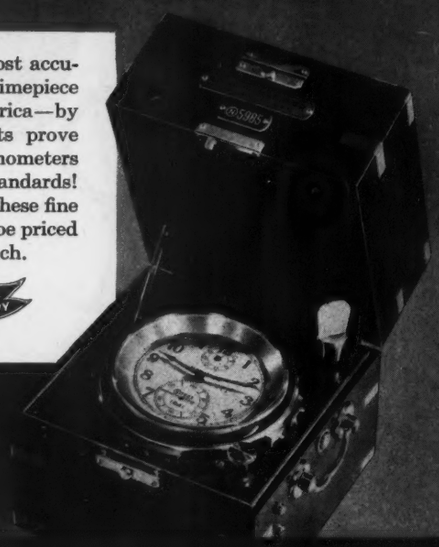

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YACHTING ON THE NIAGARA FRONTIER

By James H. Daniels

▶ Competition for the Elisha P. Hussey Memorial Trophy, a home and home series between the Buffalo C.C. and the Chautauqua Lake Y.C., started at the Canoe Club course in Abino Bay, Ontario, on July 25th. All three races were sailed in moderate to light airs, a light, shifty, northwester just permitting the six Lightnings to finish late in the afternoon. The first race in the morning was won by Skipper John Stern, sailing *Thunderbolt*. The second race was also won by the Canoe Club, Bob Graf skippering. Third race was taken by Bunny Bourne, of Chautauqua Lake, who was individual high point scorer for the day, having placed second in the first two races. Consistent team tactics by the Canoe Club sailors gave them a lead of 38½ points to 25¼. The series is scheduled to be completed when the Canoe Club sailors are guests at Chautauqua Lake.

P. J. Hunt, sailing *Rockette*, was the only eastern Lake Erie representative at the Interlake regatta at Put-in-Bay, Ohio. *Rockette's* crew was Ras Henderson, Karl Smither and Jim Daniels, all of the Buffalo C.C.

▶ The Buffalo Y.C. cruising fleet has gained a new member through the purchase of the Class R yacht *Serica*. Bob Prochnow, of Snipe fame, should make *Serica* a worthy competitor. Sailors at the Buffalo Y.C. are all planning to attend the annual port to port cruise for the Buffalo Power Squadron Trophy, sponsored by the Buffalo C.C., scheduled for Labor Day week-end.

▶ The Youngstown Y.C. cruise through the Bay of Quinte is being hashed and rehashed and plans are being made for a two weeks jaunt through the Bay in '44. The "Sixes" have been equipped with tents, mattresses, and stoves and are joining the more able cruising yachts at Youngstown.

Port Dalhousie, Olcott and Toronto, Ontario, are the favorite spots for week-end cruises and there is no doubt about the cruising bug having taken over at Youngstown.

Walt Roberts, Jr., has laid up his successful Six-Metre *Mist* for the duration and has entered the Coast Guard.

Marsh Kennedy's Casey cutter has finally arrived at Youngstown and is on exhibition for the non-believers.

LAKE MICHIGAN BREEZES

By Warren T. Davis

▶ Hot weather ashore and the thought of cool breezes on the lake have kept the fleets active here. A number of yachts went to the North Channel and to Green Bay. The yawl *Teaser*, E. E. Sheridan, spent almost five weeks on a cruise and reported various others as far east as McGregor Bay. Included among these others were some of the staff of this magazine, Stone, Rimington and de Fontaine. The Mackinac Race, reported elsewhere in this issue, took *White Cloud, Tahuna, Southern Cross* and *Wind Song* into the Channel. It is not clear from the newspaper reports whether President Roosevelt went to this spot to fish or to consult with these yachtsmen.

▶ On Green Bay, the 100-mile race attracted 18 entrants but, owing to light airs, a number did not finish. H. Brenner, Milwaukee Y.C., took first in the Class A Cruising Division and Frank Dory, M&M Y.C., was first in Class B. The Racing Division Class A saw that boatbuilder and perennial winner, Dr. C. H. Boren, take first in *Jibuji*, and H. Higby, M&M Y.C., take Class B honors in *Alice*.

The Escanaba Y.C. cruising race, which is part of Race Week on Green Bay, consists of four legs run on four separate days with final scores counting for the series. Charles W. Stoll, Escanaba Y.C., in his schooner *Rose of Sharon*, again took first in the Cruising Division. John Mitchell, of the same club, in his Six-Metre *Oslo*, made the top score in the Universal Division.

The Ephraim Y.C. Regatta is also part of Race Week on Green Bay. The race for the larger boats was won by *Bonnie*, a 22-Square-Metre owned by Francis Boyce, of the Escanaba Y.C. The Vail Cup, raced for by the smaller boats, was won again this year by Charles Butler who has made an enviable record over the past few years in his Sea Gull *Hi Ho*. Charles Butler and Freddy Horween, representing the Ephraim Y.C., won the Green Bay Sea Gull Championship for the Ephraim Y.C. Escanaba Y.C., represented by Junior Erickson and John Jacobs, took second.

▶ The Lipton, Nutting, Richter and Gehrmann Cups were raced for off Belmont Harbor in Chicago during the first week in August. One of the judges is reported to be hiding. The Lipton Cup was won by Harry Nye, Jr., Chicago Y.C., in *Gossoon II*, owned by Malcom D. Vail. A first, a second and a third gave *Gossoon II* a slightly higher score than *Ardelle*, sailed by C. D. Sutton, chartered by Commodore Danly, of Chicago Y.C.,

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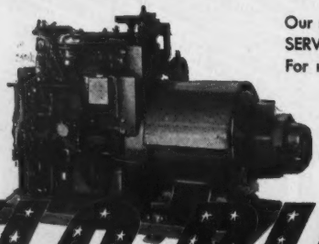

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from Clare Udell. *Romany*, Ernest Heinemann's Eagle, Chicago Y.C., took three firsts in the S Class to win the Sir John Nutting Trophy. *Orn*, Harvey Heiss, was runner up. Bert Williams, also of Chicago Y.C., who just previously won the Southern Lake Michigan Star Class elimination race, won the Richter Cup for the Star Class in *Bubbling Over*. *Svek*, owned by Sam Clarke, skippered by A. D. Dowrie, Jr., won the Dr. Adolph Gehrmann Trophy in the Tumlaren Class. *Tarna*, Max Lauderback, was second in the "Tums."

▶ Milwaukee had by far the largest crowd to see a yachting event in these parts this year. About 40,000 people turned out to see the war show and the Journal Regatta. In the large Universals, Otto Dreher, of South Shore Y.C., took first to add to his long list of firsts. *Carolyn Two*, formerly *Onaway* (now owned by Harry Zieman of the same club), took first among the A & B Cruisers, while *Lassie*, ex-*Rubaiyat-Betty Bro-Katinka*, owned by William Lawrie (also of South Shore Y.C. and this year's Cruising Division winner of the Mackinac), took first in the C and D Cruisers. *Svalen*, Richard Tyrrell, Milwaukee Y.C., was first in the E and Square Metre Class, while William Lepthien, Jr., in *Ann*, took first in the Stars.

▶ The Michigan City Y.C. New Buffalo Race was won by Lowell Dowdell's *Vanity*. No wind for the race, lots of it afterward. The Bell Trophy Race at the same club was won by Leroy Lippaman's *Mar-Bob*. Louis Gielow and John Coulter, at this club, recently bought power boats.

▶ Sheridan Shores Y.C. and Chicago Corinthian Y.C. have been running a great number of races. Because it takes some time for this column to appear in print, your correspondent hopes to give a final season's summary of their results at a later date. Sheridan Shores Y.C. reports that Sam Goss sold his cruiser *Osprey* and is a Star sailor again. Wes Bowman sold his cruiser *Bonnie B*. Jim Holston bought the Arrow *Scooter*. Jack Magner bought the Arrow *Nampaji*, and Staver Moulding now owns the Arrow *Red Oak*. Ted Lumbard, Chicago Y.C., has sold *Bangalore* and bought a sister ship of *Carolyn Two* (ex-*Onaway*), which he is naming *Bangalore Too*.

▶ Willis Ware succeeded Milton Friend as commodore of Columbia Y.C. in July. Commodore Ware is owner of the "Tum" *Viking*, and is an ensign in the Coast Guard Temporary Reserve. Milton Friend had to resign because of his duties as a lieutenant in the Civil Air Patrol.

▶ For the first time in history, the White Ensign of the British Royal Navy was hoisted over a new American-built warship in Chicago. The vessel was a PCE sub-chaser, and was the first of several being built for the British Navy in the Calumet Harbor yards of the Pullman-Standard Car Manufacturing Co.

▶ It is nice to learn that Faraday Benedict, known to all Great Lakes sailors as Bob Benedict's sailing daughter, is not going to be lost to yachting when she marries this month. Faraday is going to be spliced to Robert Sanders Davies, lieutenant in the U.S.N.R., a sailor in his own right. Lt. Davies lives at Scarsdale, New York, and owns the Alden-designed yawl *Lone Gull*, whose home port is Falmouth, Massachusetts. He is at present on active service in the Navy and when this war is over, it merely looks as though Faraday would transfer her sailing from fresh to salt water.

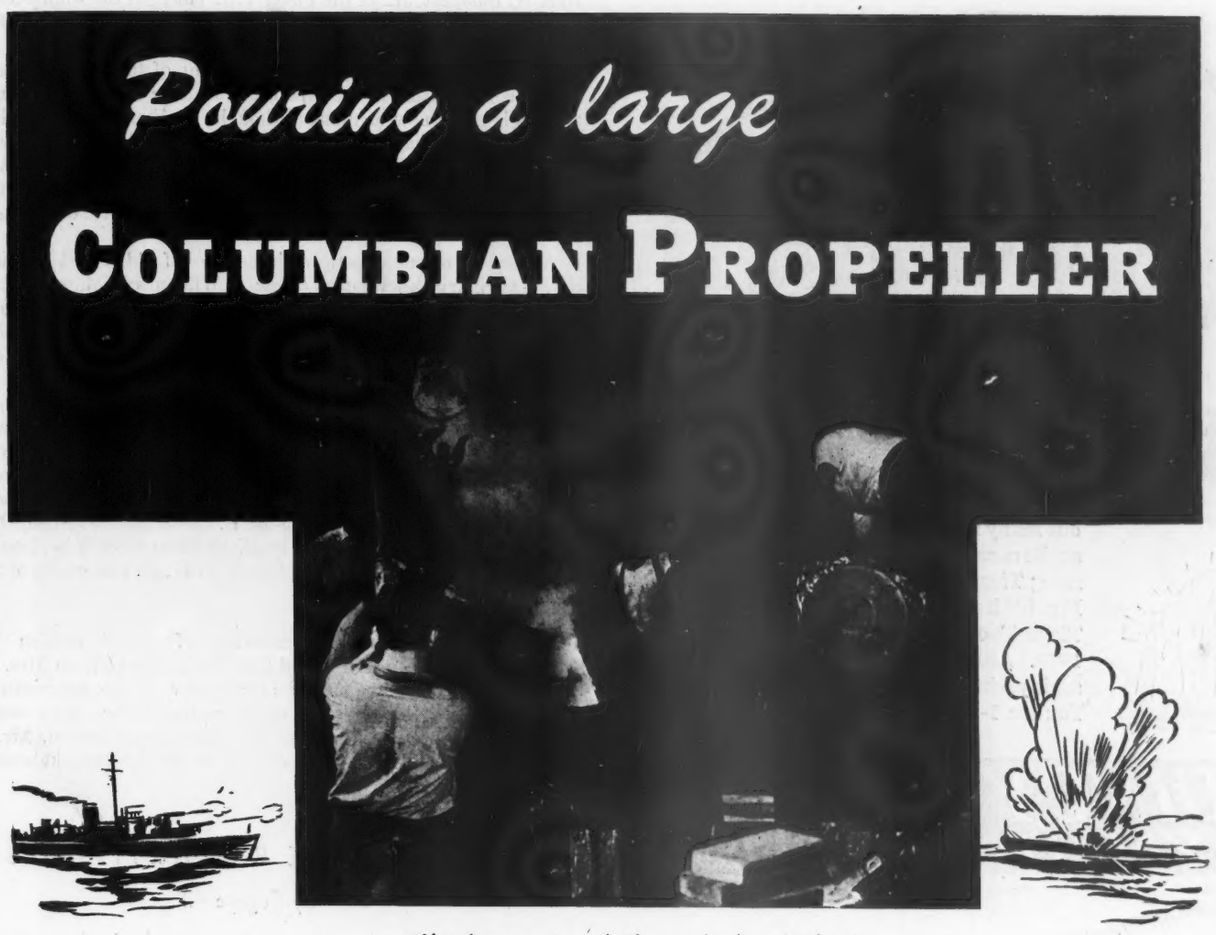
MASSACHUSETTS BAY FLASHES

By Ed Earle

▶ Marblehead Race Week turned out to be a grand success despite restrictions which kept the main fleet from Boston Bay in its home waters. The last day under the burgee of the Corinthian Y.C. brought out a fleet of 130 starters, probably the season high on both the Atlantic and Pacific coasts. Good weather carried through the week with fine sailing breezes except for a pair of typical Marblehead light air days. The Hustler Class, from the Cottage Park Y.C., the Radios, from Pleasant Park, and the Yankee Dories, from Swampscott, were outsiders which had a strong representation. The lure of Race Week also brought several entries from Quincy Bay and Savin Hill.

▶ The effort made by Boston Bay yachtsmen in overcoming all obstacles in coming to Race Week was reflected in the award of the Leonard Munn Fowle Memorial Trophy, for the outstanding boat, to Edward Bryant, of Cottage Park, whose *Hex* was the high point winner of the Hustler Class. John S. Lawrence's noted *Moose* was given the Laurence H. H. Johnson, Jr., Trophy for the high-scoring 30-Square-Metre of the week. The rise of the International One-Designs was a highlight of the week, Harry N. Bloomfield sailing *Saga* to both trophies in the Eastern and Corinthian series. Stiff competition featured the National 110 Class, Clinton McKim's *Mons Meg II* nosing out the New England championship to succeed Commodore George D. O'Day, of the Pleon Y.C.

Pouring a large COLUMBIAN PROPELLER



The beginning of the end of a U boat

Official U. S. Navy Photo

Above: U. S. Army Amphibious forces stream out of L C I invasion landing craft.

Right: New type of effective U boat weapon—the Navy's Destroyer Escort.

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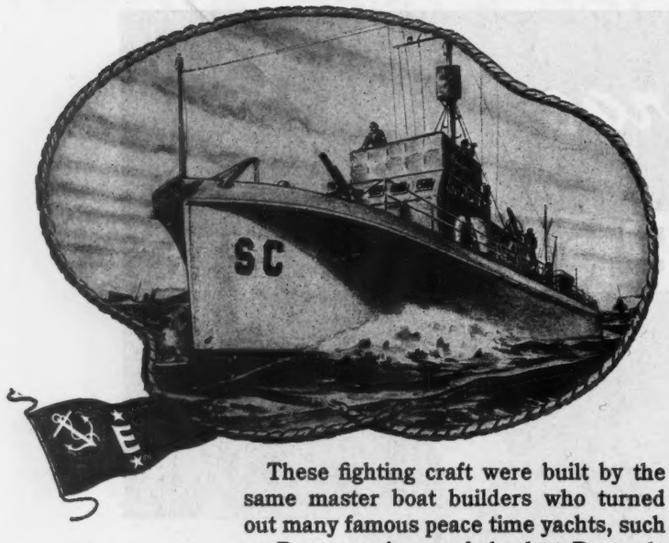

These fighting craft were built by the same master boat builders who turned out many famous peace time yachts, such as Baruna, winner of the last Bermuda race; Tioga, holder of the New London to Marblehead, all-time course record; Tioga Too, with 18 "firsts" in 24 starts in 1939. After the war, we'll build more such yachts, including racing craft of the Yankee 1-Design and Adams class.

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▶ The Sunday postlude to Race Week proved an interesting affair when a field of 51 skippers, six to sixty, took part in the annual Pleon Y.C. Brutal Beast tournament for the William Leeds Carleton Memorial Trophy. John H. Blodgett, Jr., of the Pleon Y.C., emerged the winner after defeating George C. Wiswell of the Winchester B.C. in the two-race final.

▶ The Massachusetts Bay Y.C.A., made up of 40 member clubs, is giving serious consideration to the expansion of junior membership. Junior membership is not a new or unusual thought for there are many clubs in the Association that have fostered this branch of yachting for 50 years back.

Commodore Ed Sharkey, of the Massachusetts Bay Y.C.A., has appointed a committee to review a previous report on junior yachting with a suggestion for a definite recommendation for guidance of the Association.

▶ Among the recent sales through the office of Eldredge-McInnis, Inc., are the 31′ auxiliary Casey cutter *Tonya*, to William and Marshall S. Kennedy, of Buffalo. She will be trucked from Monument Beach to Youngstown, N. Y., on Lake Erie; the 30′ Crocker-designed auxiliary yawl *Idler*, from Dr. George O. Cummings, Portland, Me., to William Kipp, of Marblehead; the 37′4″ auxiliary sloop *Alouette*, from Mrs. Harold Amory, Dover, to Walter G. Kimball, of Saugus; the 27′ auxiliary sloop *Lucky Me*, from Nels Michaelson, of Lansing, Mich., to Charles C. Woodford, of New Martinsville, Va.; the 38′ twin screw power cruiser *Louise*, to G. Clarence Wooley, of Providence; the 30-Square-Metre *Hell Diver*, ex-*Mickey Moose*, which John S. Lawrence had built in Russia to race at Marblehead, from Thomas N. Perkins, Jr., of Westwood to John E. Caster, of Cleveland, Ohio, where she will be trucked; and the 30′ auxiliary sloop *Knot Wise*, from Capt. G. Wise Westcott, U. S. Army Air Corps, to W. H. Lister, Jr., of Stillwater, R. I.

▶ Walter R. Bell, former commodore of the Corinthian Y.C., has bought *Gone Away*, International One-Design Class, from Mrs. George S. Patton, Jr., wife of the famed commander of the American forces in Sicily. *Gone Away* has been out of the racing for two years but will be a formidable contender the rest of the Marblehead season. Mr. Bell has been racing the last few seasons in his M-B Class knockabout *Chinook*.

CHESAPEAKE BAY ACTIVITIES

By Bugeye Bill

▶ The 65 starters for the Hampton Y.C. Fourth of July regatta probably will stand as a record for the Chesapeake this season. While the turnout came as a surprise to many yachtsmen, it serves to prove that sailing is on the upsurge in areas where a resident population has sailing facilities close at hand. Washington, D. C., is another example of this trend.

Winners in the seven classes were: T. O. Cowdrey, Jr.'s *Asterion*, Deadrise Class; R. M. Hansen's *My Lady*, Free-For-All Class; K. E. Savage's *Arrow*, Hampton One-Designs; R. O. Welsch's *Foxy*, Knockabouts; J. S. Stevens, Jr.'s *Tudy*, Penguins; O. A. More, Warwick Dinghies; and Billy McCoy's *Kit-Kat*, Moth Class.

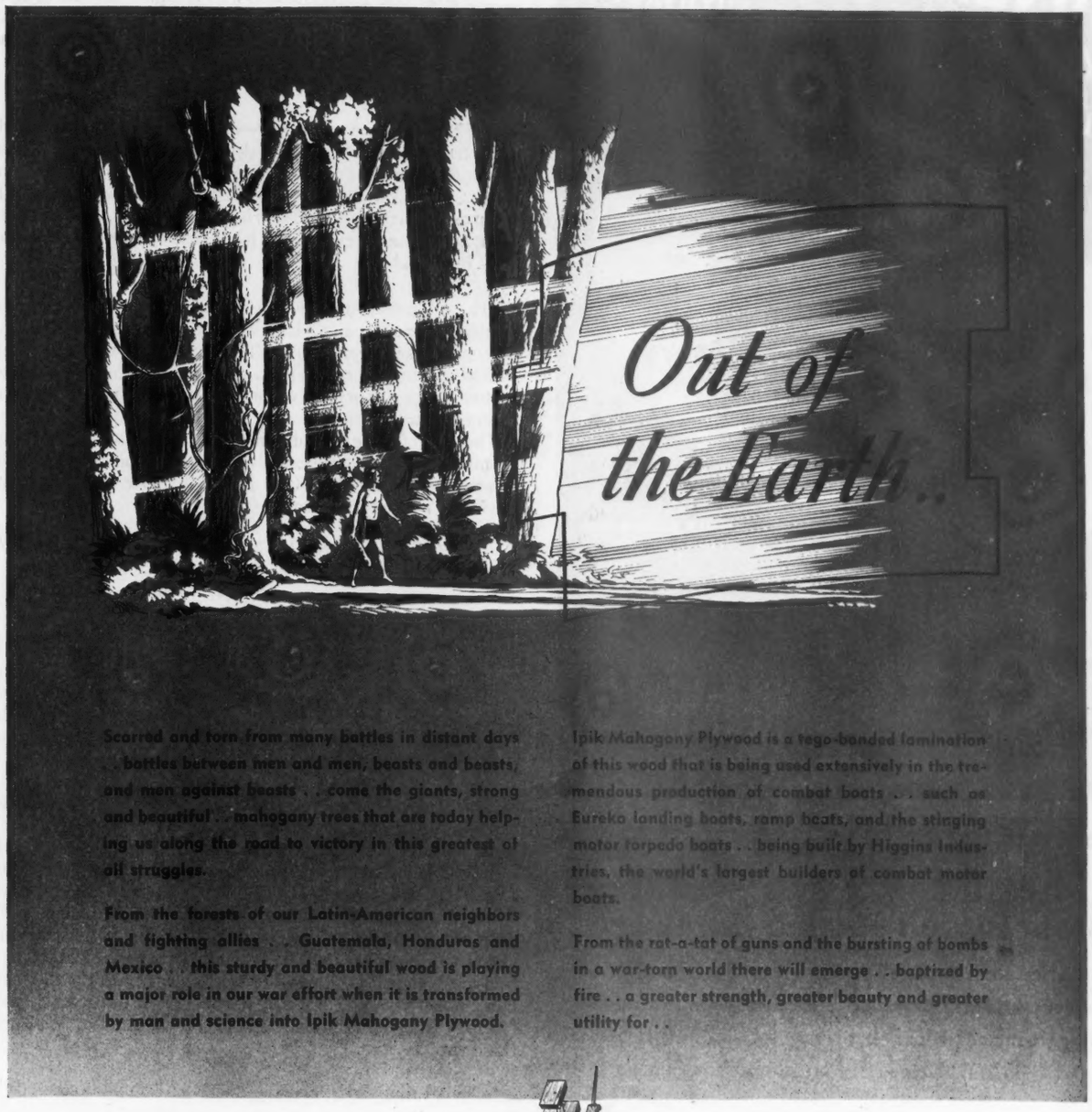
The wind was light and variable, mostly from the southwest. Power craft were conspicuous by their absence and, as Syd Vincent, long-time H.Y.C. member, put it: "To hear a cocktail shaker being shook on July 4th was a novelty indeed in Hampton." One important event was left out this year: the Virginia Cruising Cup race for the big boats from Gibson Island to Old Point Comfort.

Tom Cowdrey, chairman of the club's sail race committee, and R. M. Donaldson, who raced in the free-for-all, neatly solved the committee boat problem. The Deadrise Class raced in the forenoon, giving Tom a chance to sail, while Donaldson's *Rinda* served as committee boat. Tom finished just in time to transfer cannon, flags and equipment to *Asterion*, and Donaldson went out for the free-for-all. He finished second, incidentally. Cowdrey comments that: "We proved to our own satisfaction that a good regatta can be run without gasoline."

The Hampton Y.C., which has a fleet of Penguins and Warwicks, has been holding club races every other week, three races a Sunday. In this way, just as many races are held as on a weekly basis and more skippers are able to come out.

▶ At this writing, cruising boat sailors are afforded two events this season. One is the Gibson Island-Oxford race, sponsored by Chesapeake Bay Y.C., and the other is the Naval Academy Y.S. race. The latter was to be run over the Poplar Island course. Stars will be included in the Navy affair but they will race a shorter course in the Bay. C.B.Y.C. has dropped races for Stars and Comets.

▶ *Glenmar*, the 106′ yacht, and six other boats belonging to the Glenn L. Martin Co., near Baltimore, have been enrolled in the Coast Guard



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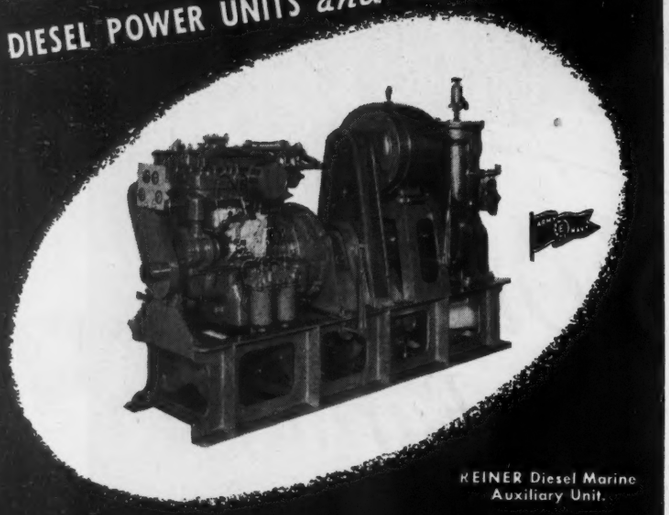

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Auxiliary. They have been used to deliver patrol bombers to the Navy and to patrol restricted waters of Middle River. They will continue to perform these duties in the Auxiliary.

The 106-footer has been fitted with complete first aid equipment, special generators, acetylene torches, floodlights and other equipment. A physician and a nurse from the company's staff have been assigned to the yacht. The other craft are *Glenmar III* and *Glenmar II*, both 40-footers; three Chris-Craft, and a 26-foot Gar Wood.

▶ Jack Stone, vice commodore of the Capital Y.C. in Washington, and three friends narrowly escaped death when Jack's cutter *Valkyrie* (the ex-Bermuda racer) was rammed by a commercial power vessel and sunk in 50 feet of water off Sandy Point, just below Gibson Island. The accident occurred at night, while *Valkyrie* was under sail. The skipper of the other boat, according to reports, lost his license to operate — but that didn't get Jack his boat back.

▶ Three hundred members, including 75 women, have been enrolled as temporary seamen, first class, in the Coast Guard Reserve in Baltimore's first port security regiment. The men will serve as guards for ships, wharves and docks of the port, while the women will act as telephone operators, truck drivers and office workers. All have completed a five weeks' training course.

The oath of office was administered to the group as a unit by Lt. Comdr. Edgar Allan Poe, Jr., executive officer of the regiment. Guests at the ceremonies included Maj. Gen. Milton A. Reckord, commanding general of the Third Service Command.

PACIFIC NORTHWEST CAT'S-PAWS

By Ray Krantz

▶ Portland, Oregon, now becomes the home port of *Buccaneer*, well-known Pacific Northwest motor cruiser, and at the same time she becomes the flagship of Portland's Coast Guard Auxiliary Flotilla 75. Harold Helliesen, of Yakima, has sold the 45′ cruiser to F. M. Phelps, commander of the Portland flotilla, through Roy W. Corbett, of Marina Mart, Seattle. *Buccaneer*, originally built by Lake Union Drydock and Machine Works, Seattle, is driven by a 185 hp. Sterling Petrel marine engine.

▶ Speaking of yacht transactions: John Whitworth, Seattle, now owns the Star *Malibou*, formerly skippered by Robert L. Eddy; Eric Moe, Ellensburg, has acquired the 36′ Schertzer cruiser *Lorene* from Dr. E. H. Smith, Seattle; Machel and Daice, Seattle, recently bought the 32′ cruiser *Mitoy* from F. M. Higgins; Olson Brothers, Anchorage, Alaska, have taken over *Dickie II*, 50′ Shain cruiser with twin Gray Six-91 engines. *Flying Fish*, a 40′ Grandy cruiser with Chrysler Royal Eight, has been sold by Phil Coffer to Henry W. Salo, both of Seattle; the War Shipping Administration has bought the 72′ motor vessel *Buddy* from the F. E. Booth Co., of San Francisco; and F. F. King, Seattle, now owns the Six-Metre *Hanko*, formerly carrying the colors of Stimson Bullitt. Roy W. Corbett handled these various sales.

▶ Sagstad Shipyards, Seattle, operated by one of the city's really old-time boatbuilders, S. E. Sagstad, have delivered four 104′ aircraft rescue boats to the U. S. Army Air Corps. These slim, trim and rakish craft really get along when their triple Kermath V-12 Sea Raider engines are "hooked up." This work aside, the Sagstad Seattle plant is concentrating on twin and single screw "LT" ocean going tugs, 127′ in over all length, for the Army. At the yard's LaConner plant, four B.C.L. ocean going, non-propelled cargo barges are now under way.

▶ Along this same line: On July 17th, the second 180′ Maritime Commission non-propelled barge was launched at Sea-Bell Shipbuilding Co. Seattle shipyard. The Sea-Bell barges are sent down the ways bow first, the sponsor breaking the bottle over the rudder instead of the stem.

▶ July 17th appears to have been a dingdong launching day in the State of Washington. Barges and motor vessels went down many ways in many shipbuilding ports. Small but not the least of these launchings was the Lake Union dip of a new 45′ Navy picket boat *sans* identification on July 17th at the Shain Manufacturing Co. yard, Seattle. The new picket boat was made possible by the war bond purchases of the citizens of Rochester, Minnesota, and Olmsted County. Twin 175 hp. Continental Commando marine engines drive the new boat.

Similar 45-footers are under construction at the N. J. Blanchard Boat Co., and the Washington Boat Works, Seattle.

▶ On July 16th, the Grandy Boat Co., Seattle, launched its twentieth 36′ "MT" tunnel stern river tug for the Army, and staged an impromptu party for the yard's workmen.

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▶ Puget Sound Bridge and Dredging Co. shipyard, 26th Avenue S.W., Seattle, has commissioned *Teddy II*, a 70′ power scow with twin Chrysler Royal Eight engines, for the Navy. She logs over 8 knots at 2,600 r.p.m.

▶ *YMS-293*, 135′ mine sweeper, was launched on July 7th at Associated Shipbuilders' Lake Union plant. More YMS launchings were scheduled at various Seattle yards during August.

▶ *Cat's-paws*: Acme Mansker, well known Seattle shipbuilder, is now in charge of shipbuilding at Northwestern Shipbuilding Co., South Bellingham. . . . He succeeds Charles Taylor, who now is with an Anacortes shipyard. . . . Jensen Motor Boat Corp. early in August was cleaning up a contract with the Army for ten "MT" 36′ tunnel stern tugs; three more of these boats will be completed in the near future. . . . Grandy Boat Co., in August, was preparing to build a new 42′ trolling boat. . . .

COMET COMMENTS

By Mac Lamborne

▶ Two new fleets are in the making on the East Coast, according to latest reports from Comet Class officers. A charter is about to be issued to the Cedarhurst Y.C. group on Great South Bay, while another fleet is in formation at Sea Isle City, New Jersey.

▶ The Comet fleet on Lake Skaneateles, in Central New York, has been revived by junior sailors, now that many of the older ones have gone to war. The youngsters — a 12-year-old is the junior member — have been racing Tuesday and Thursday afternoons and are doing a swell job.

▶ Comet sailing on the Delaware has centered at the Riverton Y.C. this season. The Lippincott brothers (Howard and Ray) and Ed Merrill, 1938 champion, have been out in front in most of the informal brushes. Of this trio, Howard has won more races. At last reports, the Riverton fleet had begun a regular series.

▶ Comet racing continues on the Potomac at Washington, the fleet joining in races of the Potomac River S.A. Skippers, after several weeks layover, will return for the fall series later this month.

▶ The popular Stone Harbor Y.C. regatta, at which Comets have been a feature for years, was not held this season. However, informal racing continues each week-end at the New Jersey club, which, incidentally, was the scene of the organization of the first Comet fleet in the country.

▶ Juniors at Gibson Island, Md., are keeping Comets sailing in the Chesapeake Bay country. They race several times a week under tutelage of Helen Grosvenor, fleet captain, who was a junior herself a few short years ago.

LAKE ONTARIO NEWS

By W. Peck Farley

▶ The latest addition to the Youngstown Y.C. fleet is Marshall Kennedy's Casey cutter *Caprice*, a sister ship to Commander George Johnson's *Pelican*.

W. O. Roberts, Jr., skipper of the Six-Metre *Mist*, has laid his boat up at Hadley's Yard at Olcott and has reported to the U. S. Coast Guard Training Center at Manhattan Beach, N. Y.

Bud Doyle, skipper of the "Six" *Sprig*, will defend the Alarm Trophy in a three-race series open to all "Sixes" on Lake Ontario.

Cayuga Skipper Spaulding is leading in the Rowland Cup Series, which is for the Championship of the Youngstown Y.C.

The Y.Y.C. Bay of Quinte Cruise was a huge success. The following boats made the trip: *Alarm*, *Bakajo*, *Blue Moon*, *Revelry*, *Xanadu*, *Black Scot* and *Cayuga*. It is planned to make this trip an annual affair.

▶ The Newport Y.C. on Irondequoit Bay was host club for the New York State Snipe Association annual regatta August 1st and 2nd.

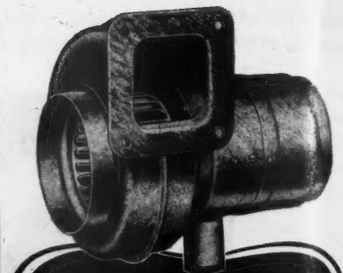
Due to driving restrictions, only four member clubs were represented: Nine Mile Point, Olcott, Loon Lake and Newport.

George Glenn, Nine Mile Pt., sailing *4 Aces*, took a first in all three races, with Ernie Coleman, of Newport, sailing *Kiddo*, in second spot. Chet Miller, of Nine Mile, sailing *Jane III*, which had been measured only the day before and practically never sailed, came in third.

The Nine Mile Pt. Y.C. came out with top honors, with the Newport Y.C. second, Olcott Y.C., third, and Loon Lake, fourth.

In the Newport Club championship series, Ernie Coleman is now leading his brother Frank. The boys have tossed first place back and forth all summer.

There are 22 boats sailing at Newport this summer which is one of the largest fleets that has ever been in commission there.



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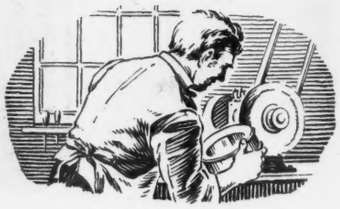

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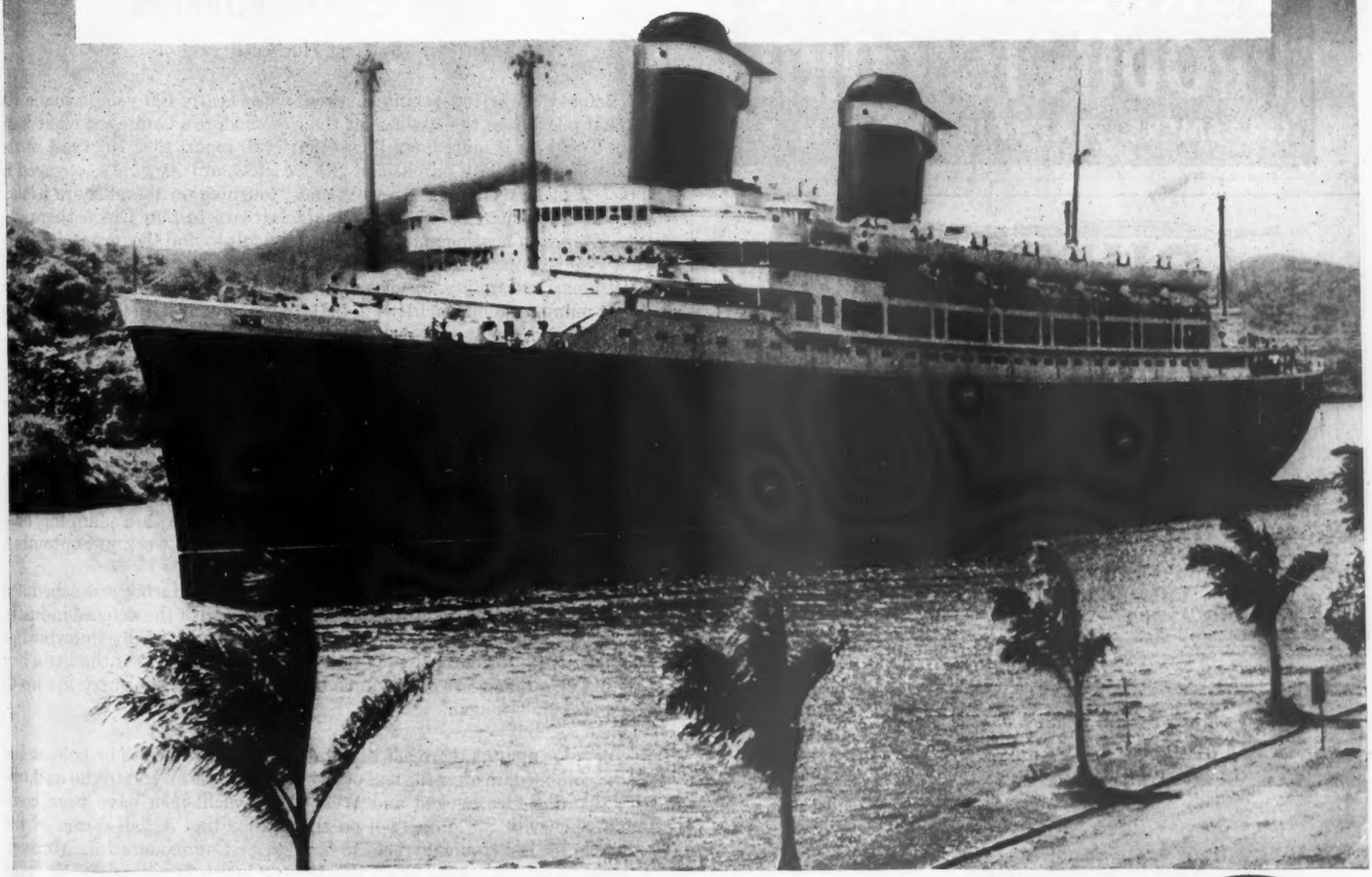

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ARMY E NAVY

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BUY U. S. WAR BONDS

▶ The nor'easter that has been dreaded all summer at the Rochester Y.C. arrived August 4th and, according to old timers, was one of the worst storms in 50 years. Part of the planking from the docks in front of the club went out; the lawn and driveway suffered more damage and the spray from the river beat in the clubhouse screened porch to such an extent that it rolled back into the clubhouse proper. However, the damage was not as great as had been anticipated and we feel now that the grounds can take practically anything Lake Ontario has to offer.

Bangalore, an Eight-Metre from Youngstown, was returning from Rochester and got caught in the storm, losing both her genoa and mainsail. A sea anchor proved of no avail and she sailed under bare poles, finally being picked up off Olcott by a fishing boat and towed into harbor.

Harry Stevenson recently sold *Acoma*, well-known black Friendship schooner, which he had sailed for 15 years on Lake Ontario. She has gone to Lake Erie where she will be sailed by Mr. McCloud from Sandusky Bay.

Cliff Baker won the World's Championship Elimination Series for Stars and represented the Rochester Y.C. at the World's Championship series on Great South Bay late in August.

Lois Dale, who with Ginny Cole in the chartered *Sisu* has been showing the boys in the Star fleet a thing or two, left early in August for Officers Training in the Waves at Smith College.

Jerry Morris has sold his Islander *Kasoag*. She will leave shortly for Toledo, Ohio.

Bob Hoffman, one time light canvas man on *Conewago* in the Canada's Cup Series, now with the Army Air Corps in the Middle East Theater, has just been promoted captain.

There are five Lightnings now sailing in scheduled races at R.Y.C. They have recently organized and this is the first year they have sailed as a class. They have issued an invitation to the Algonquin Y.C., which has the largest fleet of Lightnings in this vicinity, to sail a series of two races on August 22nd. We expect to see this class grow at R.Y.C.

WEST COAST BUBBLES

By Kent Hitchcock

▶ Before the war, it was quite an event when nearly 100 yachts made the annual pilgrimage to Catalina for the Commodore's Cruise, or what have you. Today, it is quite an ordinary matter to report that 104 craft of the yacht fleet, properly enrolled in the Coast Guard Auxiliary, engaged in practice maneuvers over the week-end "touching on the offshore islands off the California Coast." From Santa Barbara to San Diego there is a new interest in boating and it would be difficult to find the owner and crew of a seagoing craft that isn't in the Auxiliary. New flotillas are organized with amazing rapidity to accommodate the growing enrollment. There aren't many seagoing yachts with that "out of commission for the duration look." Things aren't so bad, after all.

▶ Speed boat drivers of the Inboard and Outboard Divisions, inactive since the Salton Sea Regatta in October, 1942, took to the water again in August for the Annual Gold Cup Regatta at the Long Beach Marine Speedway. Events were scheduled for M, A, B and C Hydros; C Service, C Racing and F Runabouts; 135, 225 and PODH Inboard Hydroplanes. Advance entries predicted a sizable show. Officers of Associated Speedboat Clubs of Southern California, who handled the event, are planning only one more meet for the season, scheduled for the first week in September.

▶ The Annual Flight of the Snowbirds at Newport Harbor was scheduled for the usual course late in August. Dad is busy with the defense industry but Junior and Sis have been out on the bay in the family Snowbird as usual. In 1942, the entry list fell to a new low of about 80 of the little bay cats but the juniors are out in force this year to bring the entry list up to the century mark again.

▶ For some months there has been talk of a Tahiti Race to be held at the first favorable date after the end of the war. There is no end to the enthusiasm that the idea evoked and West Coast yachtsmen have been communicating with S.C.Y.A. men on the possibilities. A half dozen of the entries in the last Honolulu race are rarin' to go. Commodore J. L. Munson, at present well occupied with the Coast Guard Auxiliary at Newport Harbor, has added *Cheerio II* to his fleet and warns that he will be at the starting line. "J. L." is a new convert to sail but, if he skippers an ocean racer with the same skill that he has shown for many years in the field of speed boating and ocean cruiser racing, he will be a difficult man to beat.

▶ Dr. Albert Soiland, father of yachting at Newport Harbor, who served with distinction in the last war, is now a full four striper in the Medical Division, U.S.N.R.

Herb Hadfield, veteran speed boat pilot who joined the motion picture division of the Army as a private, is now a staff sergeant.

Off. U. S. Navy Photo

Photo courtesy Freeport Point Shipyard, Inc.

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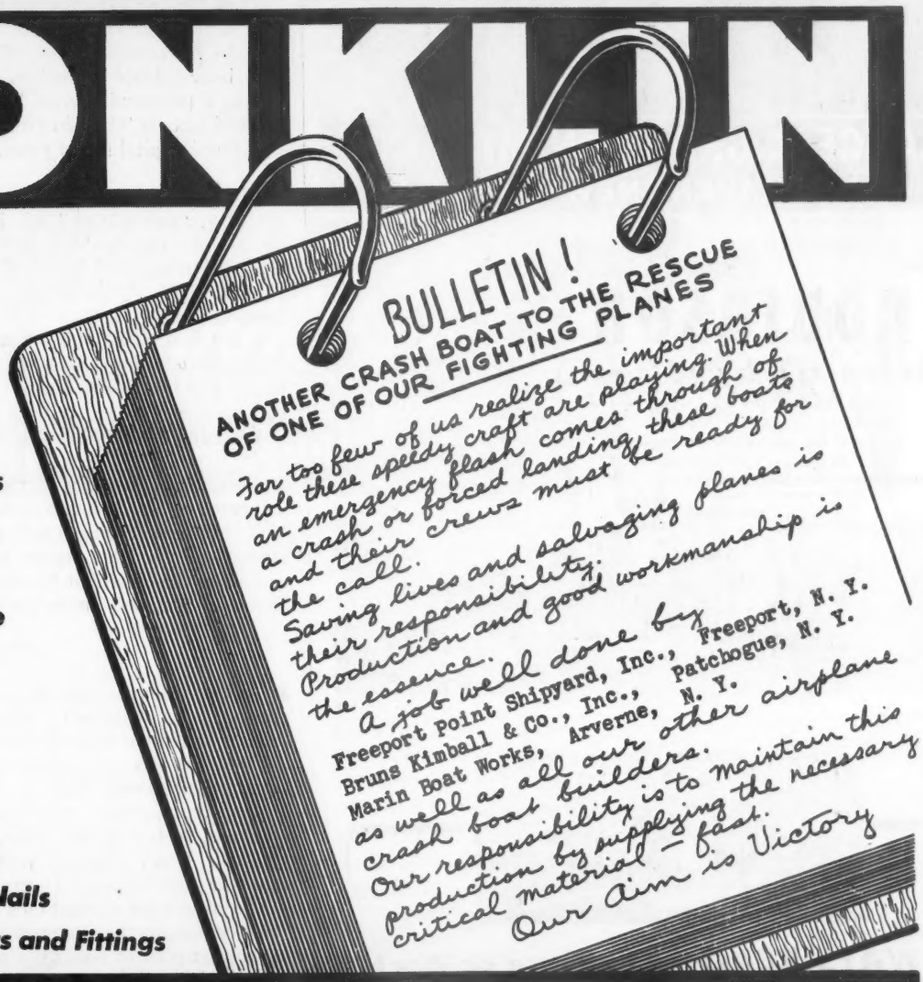
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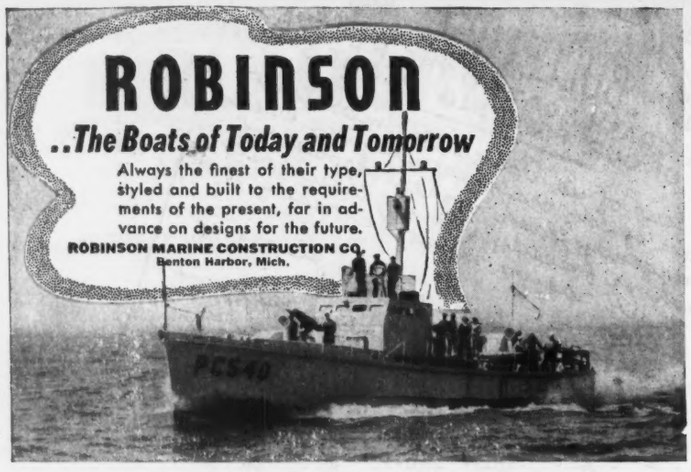
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MAINE COAST NOTES

By Lawrence B. Getchell

▶ Under the able and enthusiastic leadership of Commodore Harry G. Haskell, the Northeast Harbor Fleet has staged a most inspiring demonstration of how to keep a yachting organization yachting in war-darkened 1943. With about 30 boats (nearly half its entire racing contingent) in commission, the Fleet's series of July-August races has been the real high light of Down East yachting this season. In addition to "keeping 'em sailing," the Fleet has successfully carried on, for the second year, its program of daily sailing instruction classes for all comers. The instruction program was supervised by Harvey Kelley who did such a fine job with it last year, and indications are that the program now will become a permanent part of yachting at Northeast.

▶ If present talks and exchanges of ideas result in coördinated post-war action, future yachting in the Blue Hill Bay-Mt. Desert Island-Frenchman Bay sector will have a potent new basis for further development. Improvement of harbor conditions and yachting facilities at Blue Hill, Southwest and Northeast Harbors are current topics of interest thereabouts, while at Bar Harbor the town's Planning Board, in coöperation with the Harbor Committee of Bar Harbor, is paying careful attention to the matter of continuing plans cut short when war came. Establishment of a first class, small boat anchorage within easy access of Town Landing is Project No. 1 at the latter port.

▶ It is with deep regret that this column announces the recent death of Captain William E. Grover, of Waldoboro, last of a long line of skippers of the once great fleet of Maine Central steamers which plied these waters in the golden days of steamboating.

Capt. Grover was known to hundreds of people who regularly sailed with him in his various commands which included the steamers *City of Rockland, Sapolio, Norumbega, Pemaquid, Sieur des Monts,* and *Rangely.* He was born at Winter Harbor in 1867, went to sea at the age of ten and received his master's papers nine years later. After completing his time in the Maine Central's boats, Captain Grover served as master of the famous Boston Floating Hospital for 14 years. He retired in 1928.

▶ Frank L. Sample, Jr., the Boothbay Harbor shipbuilder whose eye-catching, "personality," ads in YACHTING have brightly retouched the picture of Maine's shipbuilding heritage, had eleven ancestors who participated in the Civil War battles which were fought in the woods north of Richmond, Va. They were his grandfather, great-grandfather, and nine great-uncles.

A few weeks ago, a load of oak from this Richmond vicinity was landed in the Sample shipyard, to be used in the mine sweepers and Navy tugs building there. Shades of the Civil War! When some of the timbers were laid open, they were found to contain bullets of the vintage of '64. Frank is wondering if they were fired by his ancestors or at them.

▶ Ten members of the Rockland Sea Scout ship *Red Jacket,* which is skippered by Dr. Joshua N. Southard, former Commodore of the Rockland Y.C., are now serving Uncle Sam. One of these, Thomas Sweeney, is among the youngest master mariners afloat, having been promoted to captain in the Merchant Marine a few months ago. Captain Sweeney is 28. The other members are in the Naval Reserve or Coast Guard.

ANNOUNCEMENT

▶ In the interest of fostering more frequent clambakes on the Northwest shore of Great Cranberry Island, and of stimulating the convivial spirit usually contingent with epicurean escapades, an organization known as the Sou'west Society of Frustrated Clam Diggers has recently been tossed together at Sou'west Harbor.

The organization's present membership consists of four hungry individuals, each of whom holds an office therein. They are, Benjamin B. Hinckley, Chief Digger; Cyrus Hamlin, 1st. Assistant Digger; William Johnston, 2nd Assistant Digger; Yours Truly, Head Hoe Toter.

The Society got its start on a Sunday afternoon in July when a couple of boats containing the aforementioned individuals rendezvoused at said spot for the purpose of holding a clambake. So much fun and nourishment resulted that the charter members decided to share it all with more people. To that end, a drive for additional members in the Sou'west Society of Frustrated Clam Diggers has recently been launched. As a "come on" to prospective members, the Society is offering a prize of $10,000. (Confederate Funds) to the first person who digs a clam on the Northwest Shore of Great Cranberry Island.

Note to Aspirants:

Entry blanks may be obtained from the Chief Digger. Bring your own dynamite and pneumatic drill.

Business end of minesweeper. The layout and every item of equipment are designed for efficient handling of the modern gear required.

On LAKE MICHIGAN too!

Minesweepers and subchasers are being equipped with rust-proof Anaconda Metals

Almost yachtlike is this subchaser. Depth charge racks are aft—anti-aircraft guns nearly amidships. Not an inch of deck space is wasted.

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Plenty of strong, tough, corrosion-resistant Anaconda Metals are used on these auxiliary vessels; Everdur* for hull fastenings, and hull straps made of the same long-lasting material. Pipe lines such as the lubricating and fire extinguishing systems are dependable—largely because they are made of time-tried Red Brass Pipe. Super Nickel tubes serve as water supply lines in the engine and generator rooms while Copper Tubes in the engine room are used for fuel oil lines and other transfer piping.

When victory is won, and it's time to outfit your postwar pleasure boat, the same reliable Anaconda Copper and Copper Alloys will again be ready to serve you. 43131

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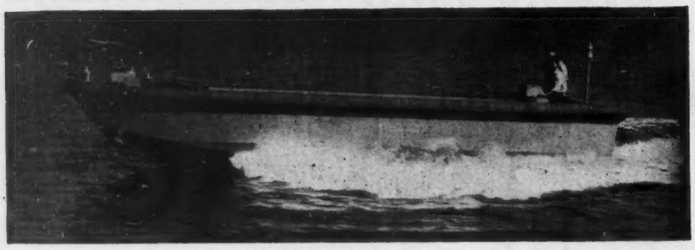

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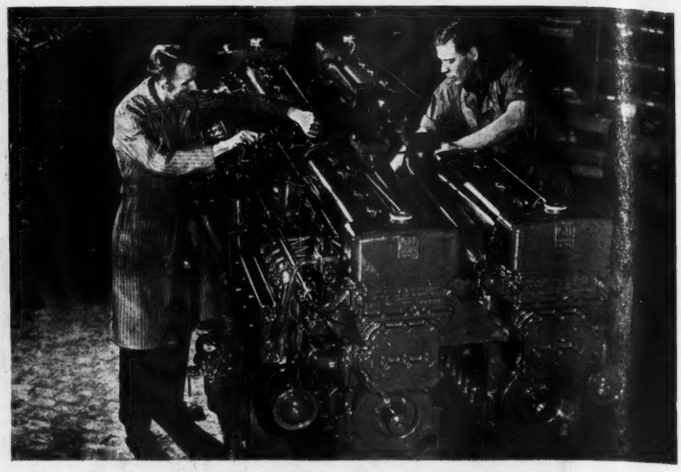
NEWS OF THE INDUSTRY



The Quad, new Diesel power plant for various types of landing barges, developed by Detroit Diesel Engine Division of General Motors

A NEW TYPE OF GENERAL MOTORS DIESEL

▶ A new technique of engine combination by which horse power delivery to a single propeller shaft is increased fourfold, with important savings in space and weight, has been disclosed by the announcement of a new type of Diesel power plant by the Detroit Diesel Engine Division of General Motors Corporation.

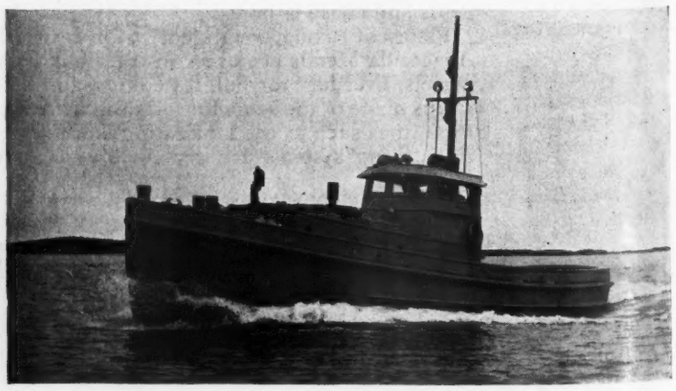
This new power plant is being widely used in various landing barges of the United States Navy. Known as the Quad, the basic unit is the Series 71 two-cycle engine, which before the war was widely used on American farms, highways and in peacetime construction projects. To meet the higher horse power requirements of war, General Motors, in coöperation with Navy engineers, devised a method of making these engines work in combination, which, despite its simplicity, is one of the unique engineering developments to come out of the war to date.

The Quad consists of four standard six-cylinder General Motors two-cycle Diesel engines geared to a common propeller shaft in such a manner that the assembly occupies relatively little space. Cruising range is increased by the flexibility of the engine arrangement coupled with the use of the General Motors controllable pitch propeller. By placing accessories on the "out" sides, the engines in each pair in the Quad can be located exceptionally close to each other. These unique design features permit mounting the two pairs of engines in the base so that all four engines are attached to a gear box located centrally; thus the power is geared to the propeller shaft under the center of the entire assembly. Controls are located at one side of the gear box.

Gear, clutch, propeller shaft and controllable pitch propeller are manufactured by Electro-Motive Division of General Motors. Detroit Diesel manufactures the engines and assembles the complete power plant.

ON THE PRODUCTION LINE

▶ The H. M. Harper Company, manufacturers of "Everlasting" fastenings, has opened a branch office at 1617 Pennsylvania Blvd., Philadelphia. . . . American Welding Co. has won the Army-Navy "E" for the second time. . . . Panish Controls have added a star to their "E". . . . The fol-



"MTL-240," one of a large number of 46' boats being built for the Army by Henry R. Hinckley's Southwest Harbor Boat Co.

7 things you should do to keep prices down!

If prices soar, this war will last longer, and we could all go broke when it's over. Uncle Sam is fighting hard to keep prices *down*. But he can't do it alone. It's up to *you* to battle against any and every rising price! To help win the war and keep it from being a hollow victory afterward—you must *keep prices down*. And here's how you can do it:

1. BUY ONLY WHAT YOU NEED

Don't buy a *thing* unless you *cannot* get along without it. Spending can't create more goods. It makes them scarce and prices go up. So make everything you own last longer. "Use it up, wear it out, make it do, or do without."

2. PAY NO MORE THAN CEILING PRICES

If you do, you're party to a black market that boosts prices. And if prices go up through the ceiling, your money will be worth less. Buy rationed goods only with stamps.

3. SUPPORT HIGHER TAXES

It's easier and cheaper to pay for the war as you go. And it's better to pay big taxes *now*—while you have the extra money to do it. Every dollar put into taxes means a dollar less to bid for scarce goods and boost prices.

4. PAY OFF OLD DEBTS

Paid-off debts make you independent now . . . and make your position a whale of a lot safer against the day you may be earning less. So pay off every cent you owe—and avoid making new debts as you'd avoid heiling Hitler!

5. DON'T ASK MORE MONEY

in wages for yourself, or in prices for goods you have to sell. That puts prices up for the things all of us buy. We're all in this war together—business men, farmers and workers. Increases come out of everybody's pocket—including *yours*.

6. SAVE FOR THE FUTURE

Money in the savings bank will come in handy for emergencies. And money in life insurance protects your family, protects you in old age. See that you're ready to meet any situation.

7. BUY WAR BONDS

and hold them. Buy as many as you can. Then cut corners to buy more. Bonds put money to work fighting the war instead of letting it shove up prices. They mean safety for you tomorrow. And they'll help keep prices down today.

KEEP PRICES DOWN . . .

Use it up . . . Wear it out . . .

Make it do . . . Or do without.

This advertisement, prepared by the War Advertising Council is contributed by this magazine in cooperation with the Magazine Publishers of America.

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lowing firms have received the Maritime Commission's "M": Gunderson Brothers, Federal Telephone and Radio Corp., Cooper-Bessemer Corp., Davis Engineering Corp., National Supply Co. and Tube Turns, Inc.

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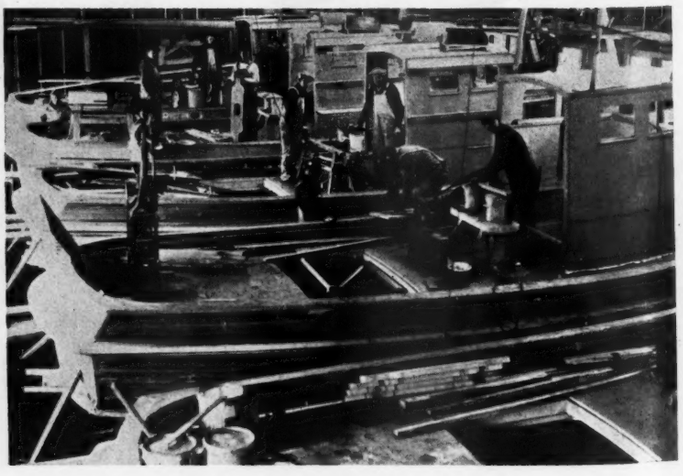
A moment after the launching of "PCS 1423" at the Burger Boat Co.'s yard. Cox and Stevens are the design agents for this new class of sub-chasers

MILTON POINT SHIPYARDS AT CAPACITY

▶ Milton Point Shipyards, located at Rye, N. Y. and operated by Wm. Edgar John & Associates, Inc., has received an additional order for a large group of Army 46′ towboats. This order supplements the yard's existing orders for both towboats and 400-ton, 110′ lighter barges which are being built for the Army. The yard is also engaged in the construction of heavily armed 72′ patrol boats for the Navy. Purchasing the yard in 1937, Mr. John, long well-known in the motor boat industry, specialized in building small sailing yachts. When the war began, he turned to the manufacture of Army and Navy craft and, by gradual development and expansion of the yard's area, facilities and personnel, has created one of the largest plants in the country devoted to the mass manufacture of war craft.



Five 46′ towboats for the Army on the production line at the Milton Point yard of Wm. Edgar John & Associates

NAVIGATIONAL EQUIPMENT
for all types of vessels
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90 State Street, Boston
38 Water Street, New York

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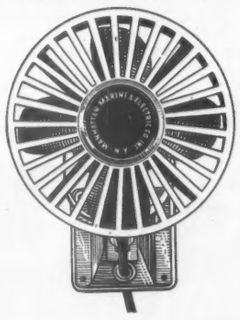
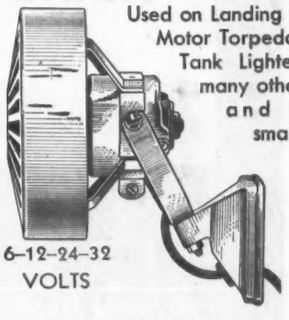
Our time is spent in building for our Armed Forces

Palmer Scott & Co., Inc.
NEW BEDFORD, MASSACHUSETTS

MARINE TYPE ELECTRIC FANS





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TOMORROW: When Boating gets back to normal, we will again boast of having one of the largest displays of boats.

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★ *Shipbuilders* ★

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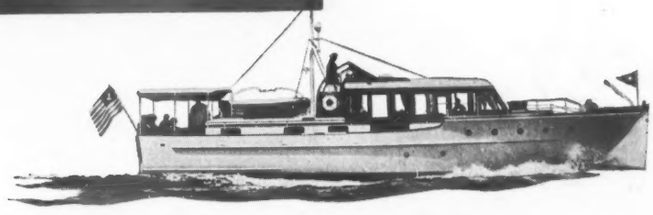

WHETHER they be fighting, commercial or private craft, their protection against the elements is best assured by Pettit Products. Experience covering years devoted exclusively to the manufacture of marine finishes, has made the name Pettit synonymous with the highest in quality. While the needs of the fighting craft and commercial fleets must come first, private boats must also be kept in condition for any possible call to service. It has been and will continue to be the policy of Pettit Paint Company to contribute essential protection to every class of floating equipment.

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